

AUSTRALIAN CAVER

THE AUSTRALIAN
SPELEOLOGICAL QUARTERLY

No.III

1986



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*All articles, reports, tests, photos
and reviews are welcomed for pub-
lication.*

These may be sent to:-

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AUSTRALIAN SPELEOLOGICAL FEDERATION INC.

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Broadway, N.S.W. 2007

NEWSLETTER

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DEADLINE FOR COPY

*All articles should be submitted to
the editor by the end of*

*FEBRUARY
MAY
AUGUST
NOVEMBER*

*If you find writing a chore, why not
phone the editor directly???*

COVER PHOTOGRAPH

David Sterling
in the Mole Creek, below Eldorada
by Bob Woolhouse.

*The opinions expressed in this
journal are not necessarily those of
the A.S.F. Inc. or the Editor.*

The CLOSTRIDIUM TETANI THREAT

(or the Bacteria Causing Tetanus)

Roman Lichacz

The reasoning behind writing this article on the threat posed to all people who engage in any outdoor activities that may result in a large cut or bite, is that I found that there were large numbers of these people, who were totally unimmunised or only partly immunised against tetanus. The procedure for immunisation is obtainable from any G.P., involving 3 injections spread over the first year, and then followed by a booster (to maintain the antitoxin in the blood stream) every 5 years.

I believe that a number of these people don't realise how much a threat to life tetanus is to them and the others probably don't realise how horrific a disease tetanus is, and that the patient care (involving tracheotomy, antibiotics and heavy sedation) results in a survival rate of about 42%⁽⁴⁾. This survival rate would be much higher, as people who have had part or total immunisation are more likely to survive.

The idea that tetanus is a rare bacterium will be quickly dispelled as one reads on, as it is extremely common, and the spores that it forms, in unfavourable conditions, are extremely resistant to attack by normal antiseptics and cleansing techniques. Also the disease was at one time called "lockjaw" as this was one of the first symptoms that set in and was the signal for further degradation of the central nervous system.

HABITAT AND RESISTENCE:

Clostridium tetani is a gram-positive, anaerobic, spore-forming, slender rod shaped bacterium⁽⁹⁾, which usually carries a terminal spore giving it a "drum stick" appearance.

Distribution⁽¹⁾ is worldwide in garden soil, manure and dust. All domestic animals⁽⁸⁾ (particularly the horse⁽²⁾), except for the cat and man, carry the spores in their intestinal tracts without showing any symptoms. The spores are extremely resistant to unfavourable conditions and can last for years away from animals in soils⁽¹⁾. The spores⁽⁸⁾ are more common in cultivated soils than in undisturbed soils. They⁽¹⁾ can be killed by 12 days direct sunlight, 15 minutes in boiling water, steam heat for 30 minutes⁽²⁾, antiseptic solutions are not very effective.

The exotoxin is only produced during the bacteria's growth⁽⁸⁾, it is called tetanospasmin⁽⁹⁾, which is a soluble protein with a molecular weight of about 67,000. Next to botulinus toxin it is the most powerful bacterial poison known. The mechanism⁽⁸⁾ by which the toxin is transferred to the nervous system is unknown. The bacterium doesn't invade the surrounding tissues when multiplying, so a constrictive bandage would have no effect on preventing the transfer of the toxin to the central nervous system.

Infection⁽²⁾ is usually by deep punctures of the skin, the spores may remain dormant in the tissues for months waiting for favourable conditions. The majority of cases⁽³⁾ that lead to tetanus were originally trivial wounds (this is possibly due to the fact that severe injuries receive prompt and thorough medical care while minor injuries do not).

SYMPTOMS AND TREATMENT:

The toxin⁽²⁾ reaches the Central Nervous System (CNS) by passing through the peripheral nerve trunks, without causing any structural lesion (local injury). Instead it causes a central potentiation of the normal sensory stimuli, so that a state of constant muscular spasticity is produced and normally innocuous stimuli cause exaggerated responses. Other⁽⁶⁾ occurrences are trismus (lock-jaw), dysphagia (hard to swallow), rigidity, dyspnoea (pain in breathing) and painful spasms, a post-mortem may show myocarditis (inflammation of the heart muscle) and brain stem involvement (such as motor neurone damage).

Deaths⁽³⁾ are usually associated with respiratory complications such as asphyxia (suffocation) or retained secretions leading to atelectasis (lung air tube obstruction) and pneumonia (inflammation of the lung). A tracheotomy (where a tube is inserted into the trachea to assist in breathing) with a paralysis regimen is usually done to prevent respiratory problems.

Chest fixation⁽³⁾ as a result of the respiratory muscular contraction can also be lethal. Heavy sedation is used to reduce amount of spasms, but won't effect the amount of fixation. Pulmonary conditions develop rapidly, and it also effects the central control of blood pressure, heart rate, airway, smooth muscle tone and sweating. The swings

in blood pressure and tachycardia (fast pulse rate) can also be controlled by heavy sedation. Unexpected cardiac arrest has been important in about 20% of deaths.

There are five important points⁽⁴⁾ in the overall treatment of tetanus:-

- 1) Wound Care - this is very important, as the bacterium will not produce exotoxin in an aerobic environment;
- 2) Neutralisation of the toxin with a toxoid injection should be carried out;
- 3) Use of Antibiotics - to prevent secondary infection and prevent the multiplication of the bacteria (it has been found to be susceptible to tetracyclines, penicillin, erythromycins and other antibiotics);
- 4) Supportive Measures - good nursing care, control of muscle spasms and convulsions, management of pulmonary (lung) complications and alimentation (with sedatives and anticonvulsants)
- 5) Completion of active immunisation - as survival doesn't convey immunity next time.

Tetanus⁽⁴⁾ is on the decline as a result of frequent use of prophylactic tetanus antitoxin injections, better wound care, and tetanus toxoid injections.

It has been found⁽³⁾ that the severity of the disease (as in a short hospital stay and lengthening period to onset of tetanus and the incubation period) is reduced in people who have undergone a full course of immunisation and last received an injection of toxoid within five years of contracting the disease.

At the same time regular emergency injections⁽⁷⁾ should be avoided to minimise toxoid reactions of an allergic nature and excessively high antitoxin titers.

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Deadline for AUSTRALIAN CAVER No. 112 is now

- MID - NOVEMBER -

so don't forget to get your article to me

in time!!!

LA CONGRESSO - An Unofficial Report on the I.U.S. Congress, Spain. August, 1986

by Lloyd Mill

All the way down through Europe this conference was shaping up to be a bit of a disaster. I was not disappointed.

I was fortunate to be in contact with Swedish cavers in mid June, when the notice regarding cheap accommodation in a student college was sent out. I was the only Australian able to latch on to this deal. Most of the others paid for four star hotels.

That still left the problem of where in Barcelona was the congress (and the cheap accommodation I'd paid for). The Dutch and Belgian cavers I met in July didn't know; nothing had been sent. Finally, just before I left Paris in late July something arrived and I got it off a Parisian caver.

This uncertainty caused problems at the congress, as many non-Europeans dropped out. Some of these were to deliver papers and as such, left holes in the program.

I arrived in Barcelona two days before the congress, found the office of the organisers and confirmed that my money had been received.

Met some of the other Australians when I registered. They had some horror stories about the organization of the field trips. I hadn't bothered with the trips after I'd received no notification of what was happening after I sent money in December.

Many of the Congress problems appeared to arise from the fact that the organizers had handed over the organization of the field trips, day excursions and accommodation to a travel agent. He then proceeded to make lots of money and a mess out of the conference.

Many Australians went on the Pampalona (Pyrennees) trip. They said that one day they rode in a bus for four hours, walked for an hour, saw a waterfall and then returned. The next day they returned to the same area. The French had offered accommodation in the area but the Spanish had refused. The Spanish also distributed a map of a cave which crossed the border - they wiped off the parts that went under France.

Back in Barcelona the Congress got underway. If Barcelona ever gets the 1992 Olympics, don't go - you will probably get robbed or mugged. Every day there was a new story about cars parked outside the Congress that had been broken into or someone who had been robbed. The worst case was probably

the Yugoslav who was bashed outside his hotel and had to go to hospital. Closer to home, Andrew Pavey lost some money to a flower seller who deftly palmed it out of his wallet.

Australia had quite a reasonable sized contingent of 12 or so, mainly from Sydney. Julia James and myself represented A.S.F. Inc. at the I.U.S. meetings. I attended the opening meeting which mainly consisted of reports from the executive and mention of what will happen in the second session. The simultaneous translation provided was on the whole good (credit where credit is due).

That evening, the city council held an opening "banquet". Lots of folk dancing, moderate amounts of champagne, negligible food. When this concluded at 10pm., we all just dispersed. This was probably the biggest failing of the congress, there was no provision for social activities and the meeting of other cavers. We were accommodated in small groups all over Barcelona. At the end of the day we just----- dispersed------. This is an essential part of any caving conference and it was just forgotten.

The first day of the conference sessions revealed the holes in the organization. Many papers were in the proceedings but not in the program, some were not anywhere. Fortunately (?) some authors did not turn up, so there were plenty of spaces in the program. The quality of the papers was generally good, with good chairing. Inside the lecture theatres things worked reasonably well.

The second day was devoted to various day excursions. Most of the Australian contingent went to the salt caves. These were quite interesting but small and hence crowded. Unfortunately, no-one really told us what to expect, so there were a lot of people wandering around with no lights. Also unfortunately, the instructions to return by 1.30pm. was given in Spanish (with an American to translate for some of us), and the buses waited for an hour whilst some Portuguese were searched for. Hence lunch was delayed.

For lunch all the buses from all the trips were supposed to meet up again. I honestly expected a disaster, you know, 400+ people fighting over a few scraps of food. Lo and behold, we were ushered into a large hotel and sat at tables. Waiters proceeded to serve an excellent meal

accompanied by wine and coffee. A most pleasant surprise!

This proved to be the high point of the whole week. For the next couple of days the Congress lurched. At nights we were treated to the International Speleo - Film Festival. Some of the films were quite good, but there was probably too much. I feel the organizers could have cut out the obvious garbage, so that we could have finished at 8pm. rather than 9.30pm. One film was so bad, that there was a mass walk-out.

One of the high points was provided by our very own Terry O'Leary. He and Ellie had arrived 3 days late due to a course he'd done in London. Upon arriving at the reception desk he was told that they were closed and he should go and watch a film on diving that was on and register later, so they both went in and sat down. I was also in the film unaware of his arrival. I noticed one of the chief organizers was wandering around evicting people who didn't have their congress name tags. He moved up the front and started arguing with some one. The film by the way is still rolling. All of a sudden I see Terry jump up and tell him to "piss off". A heated argument ensues in Spanish and English. The crowd roars its disapproval. The film rolls on. The organizer - storms out. Bear in mind during all this, that Terry had tried to register but was told to go and watch the film.

A few minutes later, the organizer comes back with a few heavies, turns off the film (boo! hiss! from the crowd) and tries to evict Terry and Ellie. An American (Red Watson) stands up, explains what happened and suggests everyone leaves. Terry gives his version. Much pandemonium. Eventually Terry leaves and registers. The whole incident was rather pathetic and encapsulates the whole Congress.

Here, I should mention the speleo-sports. This was an individual test of various rope skills. The results? 1st: Al Warild (Australia)

2nd: Mark Bonwick (Australia)
followed by the rest of the world.

The morning of the final day was the second session of the I.U.S. meeting. As Julia had gone to the delegates cocktail party the day before (whilst I slept in) she was obliged to attend the whole session. I wafted in and out, and we consulted occasionally.

Some of the more interesting things were:-

- i) New I.U.S. President - Dr. Derek Ford (Canada)
- ii) Next Congress - Hungary 1988. I know the Hungarians will organize a good congress, with lots of social events. Don't be put off because it's in the Eastern Bloc, Hungary is very easy to visit.
- iii) 1992 Congress - bids have been received from France and the U.S.S.R. (and maybe Australia?)
- iv) I.U.S. fees to remain the same.
- v) A number of countries (mainly South America)

admitted to I.U.S. South Africa not discussed.

Julia and I hopefully will put together a much fuller report before the A.S.F. meeting.

Whilst this was happening Terry, a Kiwi and their "minder" Brendan Ferrari finally caught up with the travel agent and reclaimed some money from him. Brendan and I left that afternoon for France.

AUSTRALIANS PRESENT: (for at least one day)

Lloyd Mill
Brendan Ferrari (Vic.)
Ben Nurse
Mark Bonwick
Peter Niewendyk
Julia James

Neil Montgomery
Al Warild
Andrew & Bev Pavey (and kids) (NSW)
Ron & Robyn Allum (S.A.)

* * * * *

SPELEO SYNOPSIS - Overseas -

by Peter Ackroyd

EUROPE

Caves and Caving 31:

This is full of news. First is a series of cave diving breakthroughs, the best being in Nott's Pot (Northern Pennines) where 1.5km of mainline was found after 230m of nasty sump. Daren Cilau has more cave due to Rob Parker's diving efforts and the terminal sump of Ogof Llyn Ddu has been penetrated to yield several hundred metres of bore-hole. 220m of new cave has been excavated in County Clare, Ireland, involving several pitches and three sump dives. Tony Waltham reports on his successful 1985 China expedition (a cave almost 1km long with passage so large you only just get into a dark zone!). In six weeks many areas were visited in Guizhou and Guanxi provinces by the ten British cavers, both to survey and explore some of China's caves (37km surveyed), and to pass on their techniques and skills to the Chinese. The other major expedition report is the Tresviso 1985 effort by a combined team in Spain. Bunt and the Barlow brothers get a mention for their efforts in tidying up Dosser's Delight to the sump ('Fool Aussie Sump') at -831m.

Descent 71:

It has a special report on 'Sites of Special Scientific Interest'. Apparently the enforcement of these in Mendip has resulted in a landowner backlash and the complete closing of some major caves, eg; Swildon's Hole and Eastwater Cavern. Descent also has an interview with Julia James, an article on the Oldham caplamp headpiece, a pocket history of Siebenhengste, Switzerland's deepest (912m) and second longest (80km) cave, an historical piece on the first descent of Alum Pot (Yorkshire) and lots of up-to-the-minute snippets such as the imminent connection between Daren Cilau and Agen Allwedd.

NEW ZEALAND**Tomo Times 102:**

This has lots of snippets. Of interest are: NZSS policy on novice trips - no more than six novices on any trip, ratio of three novices per experienced caver; sleeping bags in Nettlebed (Mt. Arthur) to be reduced from 14 to 8; lots of rubbish and mouldy food left in Nettlebed; a tidy-up of loose ends and a de-rig in HH (Mt. Arthur); exploration of Misty Pot (Mt. Arthur) to a sump; the withdrawal by NZSS from a Government scheme to promote caving and the NZ Karst Index database (adapted from ASF's database) nears completion with financial assistance from Government employment scheme.

UNITED STATES OF AMERICA**NSS News 44:(3)**

This has a highly detailed and readable article by Bill Stone on Rob Parker's 1985 diving effort in sump 26, Wookey Hole - only 8m depth was gained over Farr's 1982 limit. A narrow slot at the bottom of the siphon stopped Parker who was operating on a helium/oxygen/air mixture. Also in this issue is an essay on the reasons for the partial closure of Trout Rocks Cave, a NSS owned cave. It is a hibernaculum for an endangered bat: apparently it is a contentious issue. Dyas Digest mentions that Bobcat Cave is now out of the closet - an 8km plus cave kept secret since 1973 by Virginian cavers.

Nylon Highway 22:

It has an article on the development of the 'squeeze brake' rappel device, problems with speed control have kept its development way below that of the rappel rack. Bill Cuddington goes over the basics of prusik knots; a foot

mounted Petzl 'croll' ascender is described for rope-walking enthusiasts and a brief article on rescue hauling systems makes up the remainder of the issue.

NSS News 44: (4)

It consists mainly of a series of articles covering the Greenhorn Caves and Millerton Lakes Caves in Southern California. These two groups of caves are in granite and 'granitoid' rock. Both have active streams and contain large corrosion features like tafoni, blades, enlarged joints and pots (up to 8m deep). The longest segment is Upper/Middle Greenhorn Cave at 956m of surveyed passage, with a vertical range of 152m. This issue also contains an index to NSS News 43 and a comparison between American and Australian cave diving practices.

NSS News 44: (5)

This contains two articles on caving in strife-torn Honduras and some discussion on an old cavers' dilemma - whether access to NSS owned Trout Cave should be prevented for six years to try and encourage endangered bats to take up residence again.

* * * * *

BENUA CAVE, KERIACA PLATEAU, BOUGAINVILLE ISLAND, P.N.G.

IAN D. WOOD

Travelling in the bush in Bougainville isn't always easy. Apart from the dense vegetation, vines that drag at your clothes, the mud, the rain and the humidity, a complicated system of approvals are required to cross virtually every individually-owned piece of ground. The foolish bushwalkers/cavers who decide to try without first obtaining permission can be suddenly confronted with a machete, supported by a big muscular arm, supported by a big black body, supported by a devilishly grim countenance. The result is usually a hasty retreat.

Way back in July 1970, Helictite published a paper by Fred Parker, a well known caver and PNG Patrol Officer. Fred was on patrol and had visited Mt. Balby, a 2,700m high dormant volcano, in September 1963 and, as part of the patrol, decided to visit the cave which had been reported many times by flyers based at Torokina during World War II. At this stage it was only known as the "Big Hole".

The Big Hole, or Beuna Caves as it is known is situated in the Keriaka Limestone plateau which rises from the west coast of Bougainville Island, north of Torokina starting as 30m cliffs and rising to a height of 1350m some 15km inland. The outcrop stretches in a north-south direction approximately 30km. The whole plateau is pock-marked with dolines trenches and disappearing rivers. It is virtually uninhabited but is extensively visited by hunting parties from the villages situated along the coast line. The climate varies from tropical, hot, humid and wet on the coast to mild, humid and wet inland. A rainfall of 6300mm (250 inches) per annum can be expected, spread evenly throughout the year.

Fred reported the cave to consist of a single cavern 900feet (275m) long, 450feet (135m) wide and 500feet (150m) high. The volume, allowing for internal collapse heaps, sand, curvature of walls and roof has been estimated at 3.5million cu.m (Parker 1970). Fred said, "On arrival at the large depression we entered from the west, climbing down a steep side through mud and tree roots to a steeply sloping track, then down another steep slope to a river level" and "In a vertical cliff 600ft (180m) high forming the south-east wall of the depression was a cave mouth 300ft (90m) high and 350ft (100m) wide. He estimated

the doline to be roughly oval, some 2,000ft (610m) long by 500ft (460m) wide and 600ft (180m) deep."

Having read all this, Hans Meier of the North Solomons Cave Exploration Group organised a visit in 1972. His party flew to Torokina on the west coast off Bougainville by a Commercial light aircraft then started a three day walk from there.

At Torokina, guides were available and permission had been requested through the Radio Bougainville Tok Save (message session) system. After two days walking, they were turned back by a village group who just didn't want people walking across their land.

Nothing happened for many years until in 1978, a visiting yacht landed at Koropobi village on the northern extremity of the limestone plateau and asked if they could be guided to the cave. The answer was yes and the next day they set out on an eight-hour one day journey. One European member of the party impressed the local people by walking the whole distance bare foot.

Slowly the road system on Bougainville had been improving. Four-wheel drive access became available to Koropobi Village on the West Coast from Arawa on the East Coast where all members of the North Solomons Cave Exploration Group resided, when a road down the east coast was completed, the road down the west coast upgraded and a cross island road constructed. The Group decided to try to get to the cave and prepare a survey.

A letter seeking permission to go to the cave in June, 1980 and requesting two guides for three days was prepared and posted. The chances of a letter reaching the village seemed remote but within a short period of time, a reply came back advising that the Group could go.

A trip was rapidly planned and three four-wheel drive vehicles and nine people set off on the eight-hour trip on 14 to 16 June 1980.

At the village, we were welcomed and it soon became apparent that they thought we were interested in a one day trip, the same as the boat party, but after some negotiations the guides were

obtained for the three full days.

Initially, a track is followed through cocoa and coconut plantations to the bank of the Ukuakona River which flows at 3-4 cumecs and rises at the base of a limestone cliff. The colour of the water is a milkygreen and it is obviously heavily charged with limestone. A steep climb for some 300m put the party on the limestone plateau. From here, four hours walking in heavy jungle mainly following bush tracks and the beds of dry creeks (often to the sound of underground water) the rim of the doline is reached. A brief glimpse only of the doline and the cave entrance is possible at one point before the descent begins and only one point on the doline rim appears to have degraded enough for a non-rope descent. This is a mud and tree-root, 70% slope for 100m then a gentle plateau for 500m before a final plunge down another slippery trackless descent to the mouth of the cave. Most likely, this is the same slope that Parker reported.

The entrance portal is impressive: some 95m wide and 120m high with sheer vertical cliffs either side rising 350m to the jungle clad plateau above. Two thin streams of water fell in a bridal veil either side of the peak of the arch. A stream of 3 cumec flow rumbled out of the entrance from as far back as we could see, passed before us and disappeared into a small cavern where it ended in a pool of still dark water.

The party split. One to find a dry camp site in the cave and one to start surveying. Two survey teams were set up both using Suunto KB14 compasses, Suunto PM5 clinometres and 30m tapes. Not too accurate admittedly but control was maintained by both parties, regularly taking compass bearings on each other from oppositesides of the cavern. Similarly, a couple of prominent features in the roof were sighted from up to five different points so that triangles of error could be established. Two full days and a night were needed to cover the whole cavern.

The cavern is 470m along its longest length with a maximum width of 150m and height of 170m. There are three major rockpiles, one at the front left hand side of the cavern, extending to about half way into the cavern and the other two at the rear half, extending forward approximately half way down the cavern also. From this a volume of five million cu.m has been estimated. (Meier, 1982).

A river rises from a pool situated at the base of a 100m sheer wall at the far end of the chamber. It flows down the centre of the cavern between the rear rockpiles until it meets the forward rockpile which turns it sideways to the right hand wall from where it flows down the wall and out of the cave.

The soft flat-bedded limestone, reminiscent of the Nullarbor has fretted away in a similar way so that the rockpiles are covered with a fine sand. In the banks and up to 10m above the river level vertical faces up to 0.5m have been cut indicating massive flows of water at times.

In other places, fields of mud pinnacles have been formed by the dripping water from the roof above, while in others, flowstone has cemented the sand into sloping flat sheets.

The major features of the cavern is a 18m high stalagmite of a similar nature to the Grand Khan in Kubla Khan, but probably not as high. It's phallic symbolism has been used in local custom and initiation. It is golden brown in colour and is fed from a flowstone/stalactite where a small stream exists from an opening in the wall above. Several other passages in the end wall can be observed but haven't been entered yet as they would all require mechanical climbs to reach them.

The vegetation at the cave mouth contains full-sized trees grading down to shrubs, taro ferns and eventually lichens 300m into the cave. Light penetrates the cave in sufficient quantities for a caver to negotiate the rockpile at the far end without lights but lights are necessary to read survey instruments etc.

No fauna was collected or observed. Most caves on Bougainville contain several species of bats, various insects, shrimps and a fresh water crab. No doubt they were there but the survey party didn't observe any.

The foraminiferal and corraline Keriaka Limestone was laid down in the lower miocene period and is typical of tropical karst. Dolines exist within dolines, within dolines, within dolines. Access is difficult due to the heavy jungle and high rainfall. Most water goes underground, but some streams rise on the limestone. The rivers that emerge from the plateau are not great in number, but those that do have large flows which tends to indicate that several major drainage patterns exist.

From the Geological map of Bougainville and Buka Islands (Bureau of Minerals Resources, Canberra, A.C.T., 1971) it is apparent that the limestone was once far more extensive but has since been overlain by volcanics in many places. Isolated outcrops of the same age as the Keriaka Plateau occur on the eastern edge of the Billy Mitchell and Bakanovi volcanics and deposits, not marked on the geological map but known to the North Solomons Cave Exploration Group extends in continuity with the Keriaka Limestone along both sides of the axis of the Crown Prince Range which divides the island along its length.

These deposits lie conformably on the most ancient rocks of Bougainville, the Kieta volcanics, and probably represent individual reef deposits rather than remnants of a once continuous Keriaka deposit.

Further evidence to the extent of the plateau to the east lies in the water discharged from Lake Billy Mitchell. The water from this crater lake is heavily charged with calcium carbonate which deposits as Tufa, flowstones and rimstone dams in a most magnificent Gorge which has been cut in the crater wall.

The potential for the deepest hole in the world is not there. We feel some deep holes and underground rivers are there but extensive exploration would be required to find the inlets to the systems. Army maps are of limited use. They have been compiled solely from aerial photography and the interpretation is often found to be erroneous due to heavy jungle cover. Many a doline has been missed and many a heavy shadow marked as a doline. The scales of 1:100,000 and 1:50,000 are just too large. A 1:25,000 series of maps would assist greatly.

The North Solomons Cave Exploration Group has made several other more extensive trips into the Keriaka Limestone from the east coast side of Bougainville with mixed results, frustrated by the terrain and wet conditions. Tantalizing Limestone cliffs with huge waterfalls pouring out of cave mouths have been seen and local lore talks of caves in many areas. Time and access are problems. A major expedition is needed to really tackle the area.

My thanks go to the North Solomons Cave Exploration Group for allowing the use of their maps and trip reports in this paper and to Hans Meier who has read the manuscript.

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LETTERS

Dear Editor,

I could not allow issue number 110 to pass without some comment on the arrogance of E.A. Lane in the article reprinted from Australian National History. The presumption that white settlers were first to discover caves in Australia, shows a woeful ignorance of the history of this country. Ample evidence is available (Fraser's Cave-Tas, Koonalda Cave-Nullarbor etc) that limestone covers throughout this country were well known to aborigines as far back as tens of thousands of years. At that particular time Anglo-saxons were little more than a potential development in genetic mutation.

Aboriginal society not only used the caves for shelter and cultural expression, they passed information on through time and between tribal groups about their location and significance. This information could, perhaps, have been made available to Messrs. Hume, Throsby, Mehan et/al had they and their ilk spent less time firing buckshot at aborigines and poisoning their waterholes.

An Aboriginal of Mundrabilla (Nullarbor), who had spent considerable time assisting speleologists to locate and explore the caves of that region, told us of his amusement on reading subsequent articles and papers on the cave "discoveries" of the Nullarbor. His tribe had used the caves for centuries and he was more than pleased to assist the new comers in their investigations. He claimed that he also pointed out other local features of interest such as the tree which many of his ancestors were strung up by pastoralists and the tribal waterholes which were poisoned. His amusement stems from the fact that none of these latter local features were ever written about in journals as "discoveries".

Please note that my comments are not directed at cavers, most of whom I have found to be sensitive to the significance of aboriginal history and its role in speleology. Evidence of this is the article on page 10 of the same edition.

See you in the dark.

Yours sincerely,
Chris Lloyd.

and more LETTERS

To the Editor,

Recently while in Tasmania, I was fortunate to be able to accompany members of Northern Caverneers into Kubla Khan (MC-1). Since the publication of the article dealing with the cleaning of this cave in Australian Caver 108, 1986, the administration of the National Parks Service has decided to stop all such activity in the cave. Subsequently Northern Caverneers have been ordered to remove their cleaning equipment from the cave. The trip I went on was to comply with this order and we removed as much equipment as we could safely carry.

Considering the unique nature of this cave, it is imperative that no more mud is transported into the sensitive parts of it, and the mud that is already on formations is removed before it becomes calcified.

Therefore I call on everyone interested in preserving this cave to urge the Tasmanian National Parks Service to allow Northern Caverneers to continue their very effective cleaning project.

Alex Kariko.

Dear Kerrie,

Maybe I've been up the scrub too long - but I'll swear that the painting reproduced on the cover of Issue No. 110 depicts the south entrance of the Grand Arch at Abercrombie Caves, (formerly called Burrangylong Cavern and herein-after, affectionately referred to as Abers).

Some years back, researchers from the Dixon Galleries visited Abers to verify the subject matter of various Martens works; this particular painting was not one of those under investigation. I showed them the reproduction in the June '75 Issue of Australian National History and voiced doubts as to the accuracy of the caption, "Wombeyan Caves". I don't know if the subject matter of this painting was ever incontrovertibly verified but not that it is now captioned "Wombeyan Caves - North of Arch".

My memory of the Victoria Arch at Wombeyan is of a cavern floor strewn with huge angular blocks of fallen limestone. I cannot recall the cluster of voluptuous stalagmites delineated in the painting. Such a feature is visible, from the artist's viewpoint, in the Abers Arch.

Compare the painting with the working sketches reproduced on pages 2 and 8 of Australian Caver. It bears an uncanny likeness to the one on page 2. The bifurcated stalagmite on the extreme

left of the sketch is presented as being in the foreground. Actually, it is located well back from the stalagmitic cluster and this has been rectified in the painting, where this stalagmite is lost in the background gloom.

So - did Martens screw up? Or did later historians? Or is there another Arch more like the painted one than that here at Abers??

I look forward to any informative flak.

Yours in dubiety,
Nita Treharne.

Dear Editor,

We would like to comment on some of the assertions made by Guy McKenna in his article "Karst Protection", Australian Caver No. 110, Page 14.

1. Neither the N.S.W. Department of Leisure, Sport and Tourism, nor its successor, the Tourism Commission of N.S.W., is "the manager of most caves in N.S.W." The Commission administers only 3 of the states 75 Karst areas. These areas contain about 1/3 of the caves listed for N.S.W., in the Australian Karst Index 1985.

2. Speleological access to areas administered by the Commission is by a permit system. Some restrictions on speleological activity are necessary for the proper management and protection of the caves and their features. However, the Tourism Commission does understand the value of and need for Speleology. The permit system is designed to balance the needs of conservation and the needs of Speleology. Further, the Commission does not include "exploration and familiarisation" in their category of pure sport caving.

3. During Guy's extended absence the Tourism Commission has called for Tenders for a Plan of Management for Jenolan, and has actively involved the Federation in a number of significant management problems. In our view the relationship between the Tourism Commission and A.S.F. is steadily improving. Therefore Guy's conclusion that the science/sport (of speleology) is being threatened by bureaucracy, yet again" is unsupportable.

It has been our experience that ill-considered criticism, of the sort contained in the second paragraph of Guy's article, is not only unfounded, but is a major factor in the exacerbation of, so called "political problems" the Federations efforts

to protect the Karst Heritage of Australia will be more effective if its members take the trouble to get their facts straight and apply their efforts through appropriate channels.

Yours faithfully,
N.S.W. Speleological Council Subcommittee on
Jenolan, Wombeyan and Abercrombie Caves.
Derek Hobbs, Pat Larkin, John Bonwick.

Dear Editor,

I have included a letter which indicates the current state of things at Jenolan. ASF members should read the letter carefully as it has implications for groups planning trips to the 3 Tourism Commission Administered areas.

With regard to the cottage proposed at Jenolan, I am awaiting Mr. Crombie's reply to our suggested changes to the Licence Agreement for the cottage. I will be calling a meeting of the Subcommittee when the reply has been received. This will probably be in the next few weeks. It is my intention to finalise this matter as soon as possible after this meeting. If you would like to come along to the meeting call me on (02)6521767

Yours faithfully,
Derek Hobbs.

MEETING AT JENOLAN CAVES RESORT ON 15 DEC. 1985.

Dear Mr. Bryan,

I refer to the meeting between Officers of the Tourism Commission of N.S.W., National Parks & Wildlife Service and Representatives of Speleological Groups, held at Jenolan Caves Resort on 15 December, 1985. At this meeting I gave an undertaking to present the issues discussed to the N.S.W. Speleological Council and to convey the Councils response to these issues to you and the other Officers of the Tourism Commission. The N.S.W. Speleological Council recently met and decided on its response to these issues. I refer to the Notes of Proceedings of the above meeting.

1. Accommodation.

The Council has authorised its Subcommittee (Derek Hobbs, John Bonwick, and Patrick Larkin), at its discretion, to enter into a Licence Agreement for the use of a cottage at Jenolan. The Subcommittee will be contacting Mr. Crombie in the near future to finalise the proposed Licence Agreement. The proposal was well received by the Council and the Council would like to thank the Tourism Commission for making the proposal.

2. Issue of Permits.

(a) I have attached a list of Australian Speleological Federation Council Members and a list of Accredited Associates of N.S.W. Speleological Council.

(b) Applications for permits for Speleological Groups to visit caves are being referred to the Senior Guide, Jenolan Caves, or the Superintendent of Wombeyan Caves or Abercrombie Caves. This process is working well and the Council agrees it should continue.

(c) With regard to requests for permits from Groups other than Council Members and Accredited Associates the N.S.W. Speleological Council is pleased to advise the Tourism Commission on the suitability of other Groups for the issue of permits. Inquiries should be directed to the Secretary of the Council, Mr. Stephen King. If you are unable to contact Mr. King, then you should contact a member of the Subcommittee. The relevant Names and Addresses appear at the end of this letter. Requests for permits from Groups, other than Council Members and Accredited Associates should be granted only under exceptional circumstances.

3. Trip Report Requirements.

The new proforma report has been favourably received.

4. Committee to Co-ordinate Scientific Study
at Jenolan, Wombeyan and Abercrombie Caves. Mr. A. Spate is currently working on this proposal.

Thankyou for arranging the meeting at Jenolan Caves Resort of 15 December, 1985. I am confident that the good relations established, between Speleological Groups and the Tourism Commission at this meeting, will continue in the future.

Yours Sincerely,

Derek Hobbs.

Vice President N.S.W. Speleological Council.
Convenor N.S.W. Speleological Council Subcommittee
on Jenolan, Wombeyan and Abercrombie Caves.

C.C.

Mr. E. Holland, Senior Guide, Jenolan Caves.
Mr. M. Treharne, Superintendent, Abercrombie Caves.
Mr. M. Chalker, Superintendent, Wombeyan Caves.
Mr. A. Spate, Karst Investigations Officer,
National Parks and Wildlife Service.

THE JENOLAN ISSUES 1982-1986,

A Critical History

Graeme Galloway

Introduction

This document has been produced in order to make available a written and readily accessible description of, and where deemed appropriate, interpretation and evaluation of, every note-worthy development known to the author concerning issues which have risen in the period 1982-1986 relating to the campsite, and conditions of access for Speleological Groups at the Jenolan Caves, Blue Mountains, N.S.W.

In previous years, and in particular during the last twelve months, those issues have been a source of dissatisfaction to many speleologists engaged in activities at Jenolan. However, attempts to resolve the problems have suffered from the lack of any one document designed to put the issues and the difficulties which attach to them in context.

It is hoped that this paper will result in productive and informed discussion and action from the speleologists affected by the Jenolan issues.

History of the Issues, 1982-1986

In a widely distributed circular dated 22/5/82, John Dunkley presented for comment a Draft of proposed Speleological Activities at Jenolan relating to local camping conditions. In that document it was assumed that the camping area for cavers visiting Jenolan would continue to be Mammoth Flat. Another document, Speleological Activities - Conditions of Access - Effective 1/7/82, again widely circulated, sets out the formal procedures to be granted by the Department of Leisure, Sport and Tourism.

In a letter to the A.S.F., dated October, 1982 (ref.71/2144 RMM:JR), that Department confirmed Mammoth Flat was to be the campsite for cavers during official trips to Jenolan, verified that the above-mentioned Conditions of Access were prepared in full consultation with the A.S.F. and Department staff, and asserted that the conditions were adopted effective from 1/7/82 with one exception - viz. the R.A.N.C.A. cave group.

However, in the three years or so following those written agreements, local Management at Jenolan have repeatedly disallowed camping by Speleological Groups at Mammoth Flat, and have

repeatedly contravened the Conditions of Access agreement effective 1/7/82 without giving any formal notification to the A.S.F., or any other group or individual, that the Department's attitude on those matters had changed.

As a direct result of those considerations S.U.S.S. wrote to the Director of the N.S.W. Department of Leisure, Sport and Tourism on 27/4/84, expressing concern about:

- (i) the Department's attitude to the ASF President;
- (ii) the whimsical attitude of the Jenolan management to speleo camping arrangements at Jenolan;
- (iii) access being granted to Jenolan and other areas under the Department's control to groups that are not members of the ASF.

As regards the campsite issue, we advised the Department that the Jenolan Guides were at that time requiring Speleological Groups to camp at Harry's Flat instead of Mammoth Flat. The concern expressed was that the former site is unsuitable as a speleo campsite because of its distance from the caves of the Northern Limestone, and because of its proximity to the Jenolan sewage treatment works, which are situated approximately one kilometre upstream from Harry's Flat. Among other things, the Department was asked whether its view set out in their letter of October, 1982, regarding those issues had changed.

A reply from the Department to S.U.S.S. was made in a letter dated 23/5/84. In that communication, Mr. Bob Smith (then Assistant Director of the Department), advised on the campsite issue as follows:

"The Department, as a part of the plan to develop Jenolan Caves as a leisure and education complex, has instigated action to extend the depth and breadth of activities available to persons visiting Jenolan Caves Complex". ... "the plan calls for restricting the use of McKewon's Valley to outdoor recreation and education activities and excludes camping. Action is under way to establish two camping grounds on the Jenolan Caves Reserve to be located on the Old Farm Area at the top of the Five Mile and approximately one kilometre downstream from the hydro electricity station."

We were invited to contact Mr. Bob Mackenzie of that Department for additional information.

Accordingly, S.U.S.S. wrote to Bob Mackenzie on 31/8/84, detailing further the serious worries of S.U.S.S. members concerning the Jenolan Caves.

As regards the campsite issue, it was pointed out that in the Department's letter of 23/5/84 (mentioned above), we were advised that in order to gain access to Mammoth Flat for use as a campsite we should liaise with the Senior Guide at Jenolan Caves. However, although we had done so the Senior Guide had on several occasions refused permission to camp there, giving as a reason that he had been directed by the Department to disallow speleo camping at Mammoth Flat. In our letter we requested that this state of affairs be rectified.

S.U.S.S. also again complained about 'the plan' to develop a campsite at Harry's Flat, especially considering its proximity to the Jenolan sewage treatment works. A copy of a letter S.U.S.S. had received from the Metropolitan Water Sewerage and Drainage Board (ref.104/10211 Pt.2) was included in which it was stated that the water from the river below Jenolan Caves might always be a source of viral or bacterial pathogens and that such water is not safe for drinking unless first disinfected. We pointed out that, on 11/8/84 the Senior Guide at Jenolan told members of our Society that the water at the Harry's Flat site is safe to drink as it is, and that, as at 30/8/84 no signs warning of the dangers of drinking that water were evident.

The Department was asked what action it was able and willing to take in order to vitiate the health hazard posed by the river pollution.

S.U.S.S. again raised the issue of a Plan of Management for the Jenolan Karst. I pointed out to Mr. Mackenzie that, although during a telephone conversation at that time he had told me there was no plan upon which his Department was acting concerning Jenolan, a "plan" is mentioned at various points in Bob Smith's letter to S.U.S.S. of 23/5/84, as described above. We advised that, if there was in fact a "plan" for the area, then S.U.S.S. would like to receive a copy of it.

Mr. Mackenzie issued an updated reply to the S.U.S.S. letter of 31/8/84. As regards the campsite issue, we were told that the Department was allowing groups to camp at Mammoth Flat, the decision on this being made by the Senior Guide on the basis of progress on construction work at the other camp sites.

In relation to the pollution of the Jenolan River, we were informed that the Health Commission

and the State Pollution Control Commission regularly test the river water's purity below the sewage treatment works. It was claimed that the Department had not to that date received advice that the water was below an acceptable level of purity.

Mr. Mackenzie stated that as a result of our approaches to the Department they had requested officers from the Department of Health, Local Council, and Sewerage Treatment experts from the Department of Public Works to examine the sewerage treatment works, and that they agreed it is one of the most efficient treatment processes available

Concerning the "Plan of Management" for Jenolan Caves, we were advised that although the Department did not have one single Plan of Management, they were in the process of seeking advice from professional organizations that have a particular expertise in areas that are proposed for development at Jenolan - eg; advice had been sought from the Commission on Cave Tourism and Management of the A.S.F.; the Centre of Leisure and Tourism Studies, Kuring-gai C.A.E.; the Department of Public Works; National Parks and Wildlife Service; and from the Zoological Gardens.

Mr. Mackenzie stated that the criticisms raised by S.U.S.S. were "totally unfounded" and that, in the previous two years the Department had actively pursued a development programme at Jenolan Caves which not only ensured the "Resort's" commercial viability but which also protects the environment.

The next stage in the Jenolan saga had its origins in an informal interaction on 30/8/84 between myself and Mr. Ernie Holland, the Senior Guide at Jenolan Caves. Ernie instructed me to notify the President of S.U.S.S. of a meeting he had called for 17/11/84 at Jenolan and which he required her to attend. Upon reporting that directive to the S.U.S.S. Committee, I was asked to request further information about the meeting in writing from the Senior Guide.

Accordingly, in a letter of 5/9/84, I requested that S.U.S.S. be sent formal, written notification of the meeting, and a written agenda detailing the issues to be dealt with on that day. We also queried whether the A.S.F., and the speleological clubs that regularly visit Jenolan Caves, would be invited to attend the meeting.

The S.U.S.S. request seems to have shown up some confusion at Jenolan, as we evidenced by the issue of two conflicting letters on the subject of the meeting. The first, undated letter, advised that one of the aims of the meeting was to explain changes in Departmental policies concerning the issue of permits for speleological activity. In the second letter of 4/10/84, it was emphasized that the meeting had not been arranged to

discuss the policies of the Department of Leisure, Sport, and Tourism. It was also claimed that the meeting has been called in order to "create an awareness of the day to day activities of the Guides and the general management of the Caves by the Guides and Speleological Societies"; to explain the signing-in procedure, collection of keys, direction to camping site, procedure relating to late arrivals, and general conditions as required by the Department of Leisure, Sport, and Tourism; to establish a basis for future combined activities; and to improve co-ordination of future activities and to avoid duplication of work.

It was clear that some means should be made available by which all interested speleological societies could discuss their concerns about the Jenolan issues prior to the meeting, in which could lead to the presentation of a united front at the meeting.

To this end, S.U.S.S. put a motion at a meeting of the N.S.W. Speleological Council held on 13/10/84 which read:

"That a Jenolan Subcommittee of the N.S.W. Speleological Council be formed by representatives of interested member societies of the A.S.F. Inc. and with the authority of the N.S.W. Speleological Council to represent a united front of issues to be discussed at a meeting advertised by the Senior Guide at Jenolan to be held in November, 1984".

The motion was passed unanimously and Geoff Innes was elected as Convenor.

The first meeting of the Subcommittee was held on 17/10/84, and was attended by representatives of the following clubs:- B.C.A.; I.S.S.; M.S.S.; M.U.C.G.; N.S.W.I.T.; S.S.S.; S.U.S.S.; U.N.S.W.S.S.

As a result of that productive meeting, numerous items for Discussion were documented for consideration at the Jenolan meeting 17/11/84. These related to the issues of the campsite to be used by speleos visiting Jenolan; relations between Jenolan guiding staff and speleos; and the value of the work carried out at Jenolan by speleos. Regarding the campsite, reasons supporting the case for allowing cavers to camp at Mammoth Flat were itemized, as were those against the campsite being located anywhere else on the Reserve. Concerning relations between Jenolan guides and speleos, numerous complaints from the cavers about the Guides' power of veto with respect to Speleological Groups' work at Jenolan, and other problems with conditions of access to the area, were elaborated upon. The value of speleologists' work over the years at Jenolan was highlighted and an attempt

was made to state (in a way which even the meanest intellects could understand) the ways in which properly conducted speleological work is undertaken. The Minutes of that Jenolan Subcommittee meeting were widely circulated.

The meeting with Jenolan Management was held at 8p.m., 17/11/84, at Jenolan Caves House, and comprised representatives of various Speleological Societies, and the A.S.F. Inc.; the Senior Guide, Jenolan Caves; the Manager, Jenolan Caves Reserve; various Jenolan Guides; and Bob MacKenzie, then Senior Administrative Officer, N.S.W. Department of Leisure, Sport, and Tourism.

A full report of the proceedings of that meeting was prepared based on tape recordings of the discussion, and is published in S.U.S.S. Bull., Vol.24, No.4, Feb-March, 1985, pp.111-114.

In short, Ernie Holland sought support for a series of "projects" he would like to see conducted by Speleological Societies visiting Jenolan. However, although he was unable to gain such support and all present seemed somewhat confused concerning the issues he had raised, the speleos offered many sensible suggestions to him about how constructive speleo work proceeds, suggestions which appeared to conflict with what Ernie had in mind.

Given that Bob MacKenzie was present, the speleos were invited to raise with him any issues of concern relating to his Department's policy on Jenolan.

This opportunity was taken to state the reasons why speleos should be allowed to continue camping on Mammoth Flat, and why other possible Jenolan campsites are unsatisfactory.

In reply, Mr. MacKenzie stated that his Department was developing an "environmental area" in McKewon's Valley and that koalas would be introduced there. Advice his Department had received suggested that it was inappropriate to have people camping at night in the area if the animals planned to be introduced are put there.

The question of a Plan of Management for Jenolan was also raised by the speleos. Mr. MacKenzie said that his Department did not have an overall Plan of Management for the Jenolan Reserve and that by proceeding with developments there without such a Plan, it was possible that irreparable damage could be done to the Reserve. However, he said that his Department would continue with such developments.

Given the dissatisfaction felt by numerous cavers at the outcome of that meeting, it was decided to seek a meeting with Mr. Bob Smith,

then Assistant Director, N.S.W. Department of Leisure, Sport, and Tourism. The meeting was held on 17/12/84, and was attended by Bob Smith, Bob MacKenzie, and the Speleological Council Jenolan Subcommittee members Geoff Innes, John Bonwick, and Graeme Calloway. The general aim of requesting the meeting was to seek more information concerning items discussed at the Jenolan meeting of 17/11/84.

Bob Smith told us that the reason his Department was not prepared to allow Mammoth Flat to be the permanent Jenolan campsite for cavers was not because of the plans to introduce koalas to the region, but related to the Department's view that pollution of the Jenolan Underground River would be caused by human toilet functions being performed at Mammoth Flat. The Department was also concerned that long term, detrimental effects on the area might result from its use as a campsite. Mr. Smith provided no objective support for those conditions. He also stated that the Commission on Cave Tourism and Management of the A.S.F. Inc., had recommended that camping at Mammoth Flat should cease. However, in fact, that Commission had made no such recommendation.

Mr. Smith did agree to review their decision to disallow camping at Mammoth Flat if, after a trial period of three months, the Harry's Flat site proved to be unsuitable.

Concerning other issues raised in the meeting, Mr. Smith advised that the Jenolan Tip, situated at the top of the Five Mile Hill, did not in his Department's view, pose any pollution threat to the environment because it is far enough away from the karst, but notwithstanding that, it would eventually be closed. (The Tip is within the catchment of the karst.)

Mr. Smith concluded by claiming that his Department was working towards a "Plan of Management" for Jenolan to be completed in approximately six months (from 17/12/84), but that it would not include an overall Plan for the karst environment.

Largely within the context established by Mr. Smith on 17/12/84, another meeting of the N.S.W. Speleological Council was urged and eventually held on 6/7/85 at the Wombeyan Caves. By this time, Geoff Innes had resigned as Convenor of the Jenolan Sub-Committee, and Derek Hobbs took over that position.

Now, around about that time, the Government decided that the recently formed N.S.W. Tourism Commission was to take over responsibility for administering the karst areas previously controlled by the Department of Leisure, Sport and Tourism - viz., the Jenolan, Wombeyan and Abercrombie areas - as well as being responsible for the issue of

permits to Speleological Societies wishing to visit those regions. Accordingly, Derek Hobbs contacted Mr. Paul Crombie, General Manager, Tourism Commission of N.S.W., in order to arrange a meeting with him to discuss, yet again, the speleologists' concerns relating to Jenolan Caves, in particular the decision to close Mammoth Flat to camping by Speleological Groups, and matters relating to access conditions to Jenolan for those groups. In attendance at the meeting were Paul Crombie; Malcolm Bryan (Manager, Jenolan Caves Reserve); Ernst Holland (Senior Guide, Jenolan Caves); Derek Hobbs; and stalwarts John Bonwick and Graeme Calloway.

As Paul Crombie and Malcolm Bryan were new to dealings with speleological issues, Derek began the meeting by explaining the structure and function of the N.S.W. Speleological Council of the A.S.F. Inc. Following this, Paul Crombie asked Ernie Holland to explain why camping at Mammoth Flat was no longer permitted. The Senior Guide stated that some years ago, as a result of complaints from the "the public" that human faecal remains were evident at that area, a decision was made to install a septic tank there. However, he said, complaints were made by S.U.S.S. concerning this idea. (Note: This is not strictly correct, as various non-S.U.S.S. member scientists also complained about the planned toilet installation).

Following the complaints, there was an inspection of the area by a group comprising the Manager, Jenolan Caves Reserve; the Senior Guide; and representatives of the Jenolan Caves Historical and Preservation Society. The outcome of the inspection was the decision to close Mammoth Flat to speleological camping.

Malcolm Bryan raised the issue of how the Department could justify excluding members of the general public from Mammoth Flat camping if speleos are allowed to camp there. Numerous suggestions were offered in reply to this query, all of which centre upon the fact that speleologists do not visit the Jenolan karst in the same context as do members of the "general public". The differences relate to the following facts:

- Speleologists offer their time, expertise effort and goodwill free of charge in numerous areas. They should be encouraged and supported, both by the Government Department charged with administering an area in which they wish to work, and by the local authorities in the regions, not actively discouraged in those endeavours.

- Without the speleological work carried out at Jenolan over many years most of the known caves there would not be known.

- Unlike members of the general tourist public, every speleologist granted permission to

carry out work at Jenolan and other restricted access cave areas is bound by a strict code of ethics as regards his/her behaviour during an official caving trip.

- The protection of caves is important. By requiring speleologists to mix with members of the general public, the chance of illegal cave entry by the latter group is increased given their heightened awareness, through such contact, that the "wild caves" are there.

- A number of cave scientists have said that, as a result of their having over a long period been hassled by the Jenolan Guiding Staff and the Government Departments charged with the responsibility for administering Jenolan about the Jenolan campsite issue, they are now going elsewhere -eg. Bungonia- to conduct their research. Their expertise is, at least for the time being, lost to Jenolan.

In short, the speleologists are readily distinguishable from members of the general Jenolan tourist population, and preferential treatment of speleologists by Management can easily be justified.

During the remainder of the meeting various other comments were made by the Jenolan "authorities" concerning the Mammoth Flat campsite issue. For example, Ernie Holland (1) mentioned figures to the effect that in excess of one hundred tourists a day sometimes walk up McKewon's Valley to a point beyond Mammoth Flat; (2) that speleos have brought "hordes of schoolchildren" to camp at Mammoth Flat; and (3) that a "severe bushfire danger" is posed by camping at that site.

As regards point (1), during two recent counts I conducted - the first over a four hour period at the Playing Fields on Saturday, 30/11/85, and the second in the area from the river sink near the end of McKewon's Valley to the Playing Fields on Sunday, 2/2/86, a combined total of less than 10 general public tourists were observed of which only 4 went upstream further than Mammoth Flat.

Concerning point (2), the Senior Guide himself volunteered the information that the occurrence was years ago and had not happened since that time. Point (3), regarding bushfires was investigated by John Bonwick who found out that the most recent fires in McKewon's Valley occurred in 1943 and 1957. Speleologists had until recently been camping at Mammoth Flat continuously for at least thirty years. It should also be noted that there appears to be a far greater danger of a bushfire beginning at the Harry's Flat campsite given the fact that the Department has opened that area to camping by the general public and that, from all reports I have received, that area is regularly

heavily attended by campers.

Mr.Crombie concluded the meeting by advising that he would get back to Derek Hobbs with his decision about Mammoth Flat camping, and requested that we meet with Malcolm Bryan in order to discuss issues relating to conditions of access for Speleological Groups visiting Jenolan. Such a meeting was scheduled for 15/12/85 at Jenolan Caves House.

In a letter of 26/11/85 to Derek Hobbs, Mr. Crombie advised that he had decided to deny permission to camp at Mammoth Flat, and that his decision was based on these factors:

(1) There are no toilet facilities at Mammoth Flat and he sees the distinct possibility of pollution of the "Karst drainage watertable".

(2) There is the threat of increased "E coli" count in water drawn downstream for domestic consumption at Caves House.

(3) The exclusive use of Mammoth Flat by Speleological Groups could lead to Management being seen to have double standards in denying non-Speleological Groups permission to camp there.

(4) There is evidence of intrusion on the natural environment at Mammoth Flat which, if continued unchecked, will result in the area being further denuded of "native vegetative cover" by:

- (a) vehicles using the track and parking;
- (b) timber used for camp fires;
- (c) use of the area generally by a group of people;
- (d) the threat of bushfires spreading from that area occupied by campers poses an unnecessary threat in times of high danger;

However, in the context of acknowledging the needs of speleological groups and the importance of the scientific work they undertake, Mr. Crombie offered to consider leasing a vacant Jenolan residence for the exclusive use of Speleological Groups undertaking "scientific exploration". The lease agreement would have to be between the Crown and a "Corporation" and the building would be made available to "accredited Associations of the Corporation"; the Corporation would be required to maintain a public liability insurance, indemnifying the Crown against all actions, claims, damages, etc., arising from any claim; the building would have to be kept in a clean and tidy condition and minor maintenance would have to be undertaken; there would have to be a provision to exclude an individual residing in the house for non-speleological purposes.

Mr.Crombie stated that he does not propose any charge for the lease. In conclusion, he asked

Derek Hobbs to convey his feelings on that issue to Malcolm Bryan at the Jenolan meeting on 15/12/85.

Now, as regards Paul Crombie's "reasons" for disallowing speleo camping at Mammoth Flat, the following points should be taken into account in the attempt to evaluate their validity.

In the first place, none of the alleged reasons have ever been given any objective support by those who have maintained them. Claims such as "I see a distinct possibility of pollution into the karst drainage water table", and "there is the threat of increased "E coli" count in that water" have not been made intelligible, let alone being objectively supported, and they certainly cannot in their present form provide the basis for properly justifying the exclusion of speleologists from Mammoth Flat camping.

As regards the concern that Management could be seen as having "double standards" in denying non-Speleological Groups permission to camp on Mammoth Flat, I have detailed above some of the reasons why speleologists are different from the general tourist population, and why they should be allowed to camp at Mammoth Flat.

Indeed, it is the case that Management can currently be seen to have "double standards" both because they don't allow just anybody to enter the "wild caves" of Jenolan, and other permit areas, and because they are prepared to offer a house at Jenolan for "exclusive use of the Speleological Groups undertaking scientific exploration"

I have dealt above with the "bushfire objection". As regards the worry about vehicular damage to the area, cavers agreed in 1982 that vehicles would be parked near the boomgate at the Playing Fields.

We are left then, with two "reasons" - viz., the allegation that the Mammoth Flat area is being damaged by the use of timber there for firewood, and by the "use of the area generally by a group of people".

Regarding those points, as was stressed at the Jenolan meeting of 17/11/84 described above, during at least thirty years of speleo camping at Mammoth Flat negligible environmental impact on that area has been noted by the speleologists. In any event, and once again, no objective support for Mr. Crombie's contentions has been provided.

Facts recently compiled by John Bonwick seem to me to be consistent with the claim that it is highly implausible to assert that damage could occur to Mammoth Flat merely as a result of speleologists camping there. From information contained in the "Speleological Activities Report

Book" kept in the Guide's Office at Jenolan Caves, John reports that in the period 11/8/84 to 3/8/85 there were twenty nine official trips to Jenolan by Speleological Groups, each such trip comprising an average of 7.75 people. That is, an average of 4.76 speleos per week throughout the year caved there. In the period 28/8/82 to 21/2/84, there were 26 official Speleological Group visits to Jenolan.

It does not seem tenable that less than five speleos a week camping at Mammoth Flat could cause that area to be "denuded of native vegetative cover", especially considering that over a lengthy period of use, such has not happened. Indeed, if Management really are concerned about damage to the environment at Jenolan, then they should not have opened the Harry's Flat site for camping by the general public.

On the basis of the arguments presented above, it is concluded here that the "reasons" provided by Mr. Crombie as "justification" for denying permission to camp at Mammoth Flat have not been given any objective support, nor does it appear that they are objectively supportable.

Additional problems arise with respect to Mr. Crombie's offer of a Jenolan House for occupancy by speleologists during official trips to the area. In the first place, there has been no proof provided by anyone that the houses at Jenolan do not pose a pollution threat to the environment. In that case, and given that all Speleological Groups are dedicated to protection of the karst and other areas they visit, it is simply inappropriate to occupy the house in question.

However, there is another consideration about that house which should be kept carefully in mind - the fact that substantial costs will be incurred for such things as the various kinds of mandatory insurance for the house, and for its maintenance. These costs would, of course, have to be met by the cavers using the house. In short speleologists who wished to conduct research at Jenolan would have to pay for the "privilege".

Derek Hobbs wrote to Paul Crombie on 12/12/85 and, among other things, expressed his doubts that the use of Mammoth Flat as a campsite by speleologists would have effects as significant as Mr. Crombie suggested would eventuate from such use.

At the time of writing, the most recent significant development in the seemingly never ending Jenolan saga is the meeting between various Jenolan "powers that be", officers of the National Parks and Wildlife Service; and representatives

of numerous Speleological Groups. The meeting was held at Jenolan on 15/12/85.

According to the "Notes of Proceedings" of that meeting issued by Malcolm Bryan, the following issues were discussed:

(1) Accommodation

The "cottage" being offered to speleos is on the hill near the water tank close by the gate on the road which leads down to the Playing Fields. Malcolm Bryan undertook to prepare a draft lease by mid-January. (This has now been received).

(2) Issue of Permits

The procedure is now that a Speleological Group requiring a permit to visit Jenolan, Wombeyan or Abercrombie Caves should apply to the Senior Guide/Superintendent at the area to be visited. Furthermore, it was suggested that any Speleological Group that has an application for a permit denied, has the right of appeal to the General Manager of the Tourism Commission. It was decided at the meeting that until the lease for the house is signed, speleologists will continue to camp at Harry's Flat site.

Conclusions

As can be seen from the literature described above, the history of the Jenolan Management's dealings with Speleological Groups over matters relating to the campsite to be used on official Jenolan trips, and conditions of access to the area, is far from satisfactory.

The camping problems have been widely interpreted as having their origins in a clash involving local Management at Jenolan, an some cave scientists who opposed, on environmental grounds, the installation of a septic toilet on Mammoth Flat.

Since that time, successive Management officers at Jenolan have inherited the "feud" and have, as detailed in this paper, offered many different and sometimes conflicting "reasons" for disallowing camping at Mammoth Flat.

However, as a result of constant lobbying over the last two years, the current Government body administering Jenolan, the N.S.W. Tourism Commission, has acknowledged in writing that they appreciate the needs and contributions to the area of Speleological Groups and have in that context, offered the speleos access to a house for their use during official trips to Jenolan. Given the Jenolan Management's previous renegeing on written agreements with the speleos one wonders if the current "powers that be" will long abide by their current written undertakings.

In any event, the Management at Jenolan

has consistently dealt in an unprofessional manner with the speleologists and the only way it seems that this situation will change, is if speleos stand up for themselves, something they have previously not done effectively.

This paper has been prepared because one of the greatest barriers to informed and productive action of the issues analyzed in this paper has been the lack of a document which puts the issues in proper perspective. Another such barrier has been the reluctance of some of those involved in the proceedings to communicate with the Speleological and other Groups directly affected by the multifarious developments relating to Jenolan.

I have on file each of the written communications mentioned in this paper and I am prepared to make copies available to any group or individual who can substantiate their request for the documents.

* * * * *

EDITORIAL

Hi! Hope you liked the cave sketches in the last issue. It has caused a few people to raise some controversial issues in the letters to the editor in this edition. Meanwhile I would like to thank Bob Kershaw for his excellent effort clarifying the photos of the sketches.

The Jenolan debate has been going on for some time now and included here is an article outlining all that has happened over the last couple of years, including the most recent developments as reported by Derek Hobbs. Makes interesting reading!!

We are pleased to present the first report of the International Speleology Congress held in Spain in August, 1986. It seems that some participants had a very confusing congress. I am hoping to publish further articles on the Congress in future issues.

Talking of Congresses, Speleotec '87 is almost here - the Australian Biennial Conference. We are expecting it to be the best one yet. If you haven't registered - do so now!! As Speleotec '87 is in January, the next issue of Australian Caver will have details of the Conference. To make sure Australian Caver No.112 comes out before Christmas, the deadline is brought back to mid-November.

So please get your articles in to me in time for publication.

See you in the next issue!

Kerrie Bennett

AQUATIC TROGLOBITES OF SOUTH AUST'N CAVES and SINKHOLES

by Peter Horne

A considerable amount of cave research has involved the forms of life which are to be found in 'dry' cave environments, but until relatively recently, very few studies of 'wet' cave life-forms had been undertaken in Australia.

Some workers long ago began recording the more obvious forms of life which were to be found in certain springs, ponds and open sinkholes (resulting in some instances in the discovery of rare or unique creatures as in Ewens and Picaninnie Ponds - Hallam and Lipson etc) but the first true troglobites to be found underwater in South Australia, a previously unknown species of crustacean was discovered and captured by this writer in January 1981 whilst engaging in recreational cave-diving near Mount Gambier, in the Lower South East.

The significance of this discovery was immediately obvious to the South Australian Museum's Curator of Marine Invertebrates, Wolfgang Zeidler, who identified the centipede-like animal as a syncarid, and further studies showed that the specimens caught were well-adapted to cave environments having extra-long antennae, no eyes, and being found anywhere between the underwater twilight zone and the very deep regions of the dark zone. Previous discoveries of syncarids in Australia occurred many decades ago, in Victoria and Tasmania, where they were to be found in shallow surface pools and were not blind (pers. comm. W. Zeidler 1983). It is an interesting coincidence that the 'type locality' for the syncarids, L81 or "Fossil Cave" (also called the Green Waterhole) is also the sight of very significant fossil bone discoveries in recent years, where extinct species of kangaroo, cuckoos and Marsupial Lions, to name a few, were identified through their bones being carefully retrieved by cave divers (CDA Occasional Paper #2, 1981).

Spurred on by this unexpected discovery our small group of interested divers began to spend much of our time collecting anything that moved underwater! Soon, we had found other unidentified life-forms, including molluscs, freshwater sponges (found mainly in the dark zone of two major sinkholes even beyond 40m depth), and more recently, blind amphipods. All of these specimens have now found their ways to the S.A. Museum for possible future study by interested parties.

Of interest is the fact that both syncarids and

amphipods are frequently found in the same caves, usually those with very little pollution in the case of the larger cenotes or in shallow semi-permanent pools deep within the dark zones of some of the more common fissure-caves of the region. Productivity is evidently very low for all troglobites found underwater to date.

A cave which was unexpectedly found to contain blind(?) amphipods is NARRINA (F11) in the Flinders Ranges (Figure 1) - not to be confused with NURINA, in the Nullarbor Plain, where amphipods have also been found recently (ASF Newsletter #101, 1983:3). A member of our underwater mapping party, Geof Newman, took note of my somewhat casual comment to "look for anything that moved!" and to my amazement, discovered amphipods under a single decomposing bit of wood! This discovery in June 1984 is interesting in view of the fact that a much better equipped party had unsuccessfully explored this cave in 1978 specifically searching for underwater life-forms. The "nil sightings" of that trip prompted some to consider introducing fish into the cave to possibly observe 'troglobitisation' but fortunately, this was never done. This subsequent amphipod discovery proved that just because something isn't readily visible in a cave doesn't mean it isn't there!

I sincerely hope that the cave diving community and the caving groups can work together to add to the steadily-growing speleological knowledge of our Australian caves - with more trained and interested people entering this field, there is promise of many great discoveries to come.

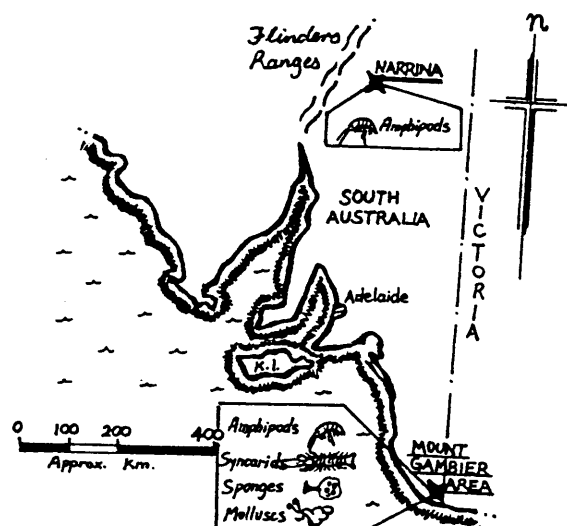


Figure 1 : Location map of known sites of underwater troglobites of South Australia (to June 1985).

SPELEOTEC '87

is almost here

If you have not already registered now is the time to do so to ensure your requirements are catered for.

- Registration fee is \$35 per head
- Registration forms were sent out with Australian Caver #109 or if you require additional forms contact:

Ian Mann
28 Stephen Street,
LAWSON NSW 2783
Home phone (047) 591890 (between 7 and 9 pm)

- For accommodation other than camping you MUST contact us NOW otherwise you MISS OUT
- Papers and Abstracts are NOW due and if they are not forthcoming they will not be printed in the pre conference handouts (these should be in the format outlined in the Speleotec '87 information sheets.
- If you require helmets, lights or ladders, Macquarie Uni Caving Group will be hiring these out at the conference.
- If you wish to partake in pre conference field trips it is imperative that we be informed NOW otherwise we cannot arrange permits, guides etc.
- You are not obliged to be at the conference in order to be at the dinner. Contact Ian Mann (as above) for tickets at \$15/head.

AS THIS PROMISES TO BE THE EVENT OF THE YEAR, LET IT NOT BE SAID THAT YOU
MISSED

SPELEOTEC '87

CONTENTS:- Conservation Column - Nauru Harbor World Heritage Nomination
- Visitors Survey; B26 , Chalk Cave , Bungonia
- Cave Access Restrictions in Tas and NSW
- Lava Caves on the Western Side of Hawaii's Island
- ICC Poster Collection - A Review
- Safety and Techniques - A Guide to Caving Ropes
- Petzl Auto-Stop Descender

ASF Newsletter No 104 1984

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- Notes on the ASF - The legalities and liabilities associated with caving
 - Trip Report - Anne-A-Kananda
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 - The Gallery MY202 CRG44
 - Cave Rescue weekend Bungonia
 - Commercial Exploitation of Buchan Cave Speleothems
 - Report on accident, Ind. Cave Kosciusko National Park
 - Mackintosh Karst Area
 - Down Under All Over - Northern Caverneers
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- Australian rock art research association
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 - Trip Report - Corra Lynn

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- CONTENTS:- Trip Report- Kangaroo Island K47, K13 April 11th-12th 1984

- 1984 Post Easter Junee/Florentine
- Naracoorte 18th-21th May 1984
- Flinders Ranges 9th-11th June 1984
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- Yorke Peninsula Corra-lynn 5Y1 ,

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- Corra Lynn cave 5Y1 20th-21st July

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- Map - Anne-a-Kananda Dissicator - Rocky mountain way
- Obituary - Joe Jennings
- Alterations to CEGSA constitution
- Library Report

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- Contents - Trip Reports - Naracoorte 19-21 May 1984
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 - Carrickalinga Cave, Waterfall Cave 14 October 1984
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Chillagoe caving club 1984 Annual Report

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- 1984 Cliefden traffic calendar
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- Is there life after extinction or Using matches to detect carbon dioxide
- Interview with OSS life members Roy & Jean Keenan
- First impressions of caving
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- Rescue practice at Kangaroo Point 8th September 1984

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- ASF council meeting Mt. Kiara January 1984
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 Dyas Digest
 Safety and Techniques - Frostbite

NSS NEWS - March 1984 Vol. 42 No. 3

Contents - The Jewett II Survey
 - National Cave Protection Law
 - Safety and Techniques - Bee Sting and Anaphylactic Shock

- NSS News Index Volume 37 (1979)
- Map - Jewett II

NSS NEWS - April 1984 Vol.42 No. 4

- Contents - The Caves of Yucatan
- 1984 Convention Coverage
- 37th International Salon of Speleological Photographic Results
- Safety and Techniques - Snakes and Snakebite Treatment

NSS NEWS - May 1984 Vol. 42 No. 5

- Contents - Sequoya Caverns Story
- Pre- and Postconvention Caving Trips
- Artic and Alpine Karst Symposium
- Evaluating your vertical game
- The importance of a quick attachment **safety**
- International Whistle code
- NSS News Index Volume 41 (1983)
- Map - Sequoyah Caverns

NSS NEWS - June 1984 Vol. 42 No. 6

- Contents - Australian World Record - Cave Diving, Cocklebidy Cave
- Conquest of Manatee Springs
- Case History of a Successful Rescue - Cave Diving
- Death of a Diver
- Cave Diving Procedures
- Survival in a Cave - Notes After The Fact

NSS News July 1984 Vol. 42 No. 7

- Contents - Cave preservation - the aquisition and protection of Kingston cave Georgia
- Slick mud to dry powder - saltpetre mining
- The mud glymph cave project
- An epigraphic discovery in an American Cave
- Withero's Cave exploration
- A simple cave camera

NSS News August 1984 Vol. 42 No. 8

- Contents- NSS joins forces with federal gov't and cave research foundation to protect caves
- Bodies recovered from Valhalla - cave **rescue**
- 1984 NSS convention highlights
- 1984 Prusik contest results
- National cave rescue commission seminar at Wind cave, South Dakota
- The great Devil's Tower tyrolean traverse - rescue techniques
- Manufacturing carbide
- Cave rescue - The rescue callout
- Photography - A simple slide converter

NSS News Vol 42 No 9 September 1984

- Contents- Underground in Romania
- The Pennsylvania Cave Conservancy
- Youth group caving
- Safety - Harness test results
- Photography - The guide number and its use
- Diving fatality in Arizona

NSS News Vol 42 No 10 October 1984

- Contents- Troubleshooting before & during the trip
- Nita Nanta Expedition
- The worlds deepest caves

- Obituary - Dr Joseph Jennings
- Safety - Considerations for carrying a short piece of rope underground

NSS News Vol 42 No 11 November 1984

Contents- American Caving Accidents

- Akhali Atoni Cave - the Soviet Union's Largest Show Cave
- Poem - Carbonic acid Test?
- The Snowtube Challenge
- Deep Caves of the United States
- Australasian Cavelife Award
- Conservation Outlook
- The NSS and public relations
- Obituary - William Richard Smoots
- Locations - The game every caver plays
- Illinois cave inventory
- Youth Group Caving - Planning activities
- How to teach SRT
- Photography - Guide numbers again

NSS News Vol 42 No 12 December 1984

Contents - Cave radio update

- Bat facts
- Histoplasmosis - An occupational disease of
- Humour - How to speak Speleo-English
- The Rope Pad
- Cave management symposium
- NSS membership drive
- Safety - Safe digging techniques
- Vandalism deterrence reward goes to Georgia man
- Input wanted for cave gate study
- Photography - Big room photography

cavers?

Oolite Journal of Blue Mountains Speleo. Club April 1984 Vol 14 No. 1

CONTENTS:- President's report

- Desert divers
- Cave fauna
- Battery charger
- Aftermarket lights
- Caver's guide to Taplow Maze
- Trip Reports - Cliefden
- Jenolan
- Maps - Taplow Maze C15

Oolite Journal of Blue Mountains Speleo Club Vol. 14 No. 2

Contents - A helictite is born

- Scientists hunt bones
- Photographic basics
- Care of ropes
- Ladder care
- TV ads we'd like to see
- Trip Report - Cliefden - Taplow Maze 3rd April 1984

Oolite Journal of Blue Mountains Speleo Club Vol. 14 No. 3

Contents - Photographic Basics - exposure meters, Flash, Film

- Editorial - Schoolboy ordeal in crevice - criticism of public awareness
- Garry's Faunal Notes - Some reptiles and amphibians of the Cliefden Caves area
- Safety - concern of rock danger
- Cave fauna NSW, Millipedes and centipedes
- Historical - Centenary celebrations of the naming of Jenolan Caves
- Trip Reports - Raiders of Split Rock Cave Jenolan
 - Cliefden Taplow Maze dig & Limestone Creek trog April 7-8th 1984
 - Cliefden Surface traverse of Taplow Bluff, survey Peters Pit May 5-6th 1984
 - Jenolan Visit Rho Hole, Hennings, Little Canyon & Split Rock Caves May 12-13th 1984
 - Cliefden, Locate Tombstone area and C171 June 2-3rd 1984
 - Cliefden Survey of caves in Tombstone area C163, C166 July 7-8th 1984
 - Jenolan Dwyers, Wiburds, Mammoth, Split Rock Caves August 25-26th 1984

Quaver notes from MUCG No 6 September 1984

Contents - From naught to fifty in eleven years - a history of MUCG

- Claude loop rope transfers
- Open day 1983
- Trip Reports - Jenolan Mammoth Cave 15-16th October 1983
 - Cave rescue '84 Bungonia 10-11th March 1984
 - The Great Escape Bungonia B21
- Map - The Great Escape B21 CRG4 1:100
- Digging Equipment

SPAR Newsletter of UNSWSS No. 83 September 1983

- Contents - Trip Reports - It never rains - Cliefden 19th 20th March 1984
- The bloody big chockstone - Yarrangobilly 27th December - 2nd January 1983
 - A Mid sessions break at Yagby - Yarrangobilly 14th 19th May 1983
 - Cliefden - first impressions 19 h 20th March 1984
 - A quick short sharp shock - Mammoth Jenolan 25th 26th June 1984

SPAR Newsletter of UNSWSS No. 84 November 1983

- Contents - The ultimate trip
- There , but not back again
 - Committee's reports
 - Follow up on the simple battery charger
 - Trip Report - I'll huff and I'll puff - Bungonia 30th July 1983

SPAR 85 Newsletter of UNSWSS February 1984

- Contents - Book review - SSS Wombeyan book
- Trickle chargers - battery charger
 - Bungonia road report
 - UNSWSS merit awards
 - Been there, done that
 - Trip Reports - Bungonia 17th 18th September 1983
 - Guthega 27th 29th August 1983

- Wyanbene there , done that 1983
- Cliefden Caves 27th 28th August 1983
- Bungonia - an addendum 15th 16th May 1982
- Map - Cliefden - No Frills Cave CRG 6

SPAR 86 Newsletter of UNSWSS April 1984

- CONTENTS:- Trip Report - Wyanbene 12-13 Nov. 1983 "Caving in the nude"
- Speleo Photography
 - Wombeyan :- Road Report
 - Wee Jasper :- Trip Report 10-11 Dec. 1983
 - ASF Committee Meeting Report 28-29 Jan. 1984
 - Yarrangobilly :- Trip Report 26 Dec. 1983-2 Jan. 1984 "How the drought broke at Yagby"
 - Buchan :- Trip Report "Buchan who?"
 - Cliefden :- Map Main C11, C147, Island
- CL6, CL55, CL57, CL58, CL60
- How to write a Trip Report
 - Cliefden :- Trip Report 14-16 Jan. 1984
 - In case of Emergency

SPAR Journal of UNSWSS NO. 87 June 1984

- Contents - Been There , Done That
- Numbering your toes
 - Trip Reports - Cliefden 14th - 16th January 1984
 - We've been to GNC - Mammoth Jenolan 25th 26th January 1984
 - Abercrombie 18th 19th February 1984
 - Cave rescue weekend at Bungonia 10th 11th March 1984

SPAR Newsletter of UNSWSS No. 88 August 1984

- Contents - Committee's reports
- If only they had told me
 - ASF abseiling guidelines
 - Trip Reports - Wee Jasper 17th 18th March 1984
 - Cliefden , the first time around - again 10th 11th March 1984
 - UNSWSS Hole and all that Jazz - Bungonia 24th June 1984
 - Abercrombie in May 12th 13th May 1984

Speleo Spiel March 1984 No. 196

- CONTENTS:- AGM report
- Trip report- Florentine valley
 - Lune River , Ida Bay
 - Diving Union cave
 - Hobbit Hole - Ida Bay area
 - Maps - Diving Union Cave
 - Con Cave
 - Hobbit Hole

Speleo Spiel April 1984 No. 197

- Contents:- President's Report
- Theft of TCC equipment
 - Trip reports :- Pendant Pot 25/3/84
 - Pendant Pot 31/3/84
 - Growling Swallet

Mole Creek mainlanders tourist trip
Ice Tube 3/3/84
Little Grunt IB 23
Ice Tube 10/3/84

Maps :- IB 23 7/4/84

Ice Tube extension - Intestinal perfume

Speleo Spiel May 1984 No. 198

CONTENTS:- Trip Reports:- The Worst caves in the world 341, Gormanghast
Slaughtherhouse Pot through to Growling Swallet
25/2/84
Ice Tube through to Growling Swallet 17/3/84
Junee Resurgence 18/3/84
Khazad Dum-Dwarrowdelf Easter 1984
Pendant Pot 22/4/84
Sesame 17/5/84
Serendipity 18/5/84
Junee Resurgence 26/5/84

Speleo Spiel June 1984 No. 199

Contents - Tarn Creek Swallet 17th June 1984
- Pendant/Growling Connection 2nd June 1984
- Satans Lair (Avec La Technique Cordelette!) 26/5/84
- Kubla Khan -Resurgence to and from bottom entrance exchange
through dive or Kubla via the tradesman's entrance. 10/6/84
- Junee - Florentine 15th April 1984 , 19th May 1984
- Chicken Bone Pot
- Maps - Chicken Bone Pot
- Pendant Growling Connection

Speleo Spiel July - August 1984 No. 200

Contents :- Editorial by original editor - old techniques
- Midnight Hole 22nd July 1984
- Tassie Pot 9th August 1984
- Slaughterhouse Pot survey and through trip 11th June 1984 - pitch
details
- Lawrence Creek rising 16th June, 23rd June 1984
- Loo Lane 5th August 1984
- Migrating South for Winter Ida Bay, Junee-Florentine
- IB24 14 - 15th July 1984 pitch details
- Udensala - every which ways is loose 24th June 1984
- The saga of Udensala - episode four 7th July 1984
- Tinderbox - salt water and dry 4th August 1984
- Shirley's Pool - giving up the weed 29th July 1984
- Map - IB24

Speleo Spiel No. 201 September 1984

Contents- Trip Report- Mt Gambier - Picanninnie Ponds 26th April-15th May 1984
- Rift Cave - Florentine 8th September 1984
- Sesame - Trevs recurrent wet suit fatigue
- Lost Pot - apathy gets me down Florentine 16th
September 1984
- Florentine Pot -Found by Mick Flint 16th September
1984
- Deepest caves list - Tasmania as top 32

Speleo Spiel Newsletter of Tasmanian Caverneering Club No. 202 October 1984

- Contents - Obituary - Joe Jennings
- Speleomania for beginners
 - Emergency kits in Growling Swallet
 - Amendments to the deepest list
 - Trip Reports - Sesame Through Trip JF210, JF211 18 August 1984
 - Peanut Brittle Pot JF147 26 August 1984
 - Shaft Bashing in the Hollow Hills
 - Revelation Cave - Martyn's Ripping Yarns
 - Hollow Hills HH01, HH02, HH03, HH04, HH05, HH06 7 October 1984
 - Yodellers Pot - Happiness is a wet pot 7 October 1984
-

SRGWA Caver's Chronicle Volume 11 November 1984

- Contents- Trip Report - Yallingup Oct. 27-28th 1984 Cleanup weekend
- Conservation & land management bill of WA (CALM) Reprint from newspaper
 - Editorial reprint re amalgamation of land management agencies in WA
 - Reprint ACF newsletter re Vic gov't attitude to national parks
 - Obituary Dr Joe Jennings
 - List of WA members of legislative council
 - Form letters for protest re amalgamation of land management agencies
-

SSS -Journal of the. March 1984 Vol.28 No.3

- CONTENTS:-Big Hole Log Book
- Caver's annual picnic
 - Yarrangobilly Photo Tagging Trip Report
 - Colong Trip Report
 - Review:-Harvesting and Rehabilitation of Jounama Pine Plantation
 - Reprint-Description-Colong Survey Southern Sections
 - Reprint-Map-Colong Caves remote southern section

SSS - Journal of the. May 1984 Vol. 28 No. 5

- CONTENTS:- Data collection methods for expedition cave surveying
- Trip reports- Wee Jasper
 - Yarrangobilly
 - SSS barbeque

SSS - Journal of the. June 1984 Vol. 28 No. 6

- CONTENTS:- Reprint - The systems of limestone caves 1915
- Southern hemisphere depth record broken again - Nettlebed Cave New Zealand

Sydney Speleological Society Journal

Volume 28 Number 7 July, 1984.

- Contents - New Zealand Mini-Expedition - Christmas, 1983
- Trip Reports:- Excavating at Jenolan 26th, 27th February 1984
 - Jenolan 25th 26th February 1984
 - Bungonia Air Sampling 7th 8th April 1984
 - Reprint - Seven survive cave diving horror

SSS Journal Year Book Issue - 1983-1984

Volume 28 - Number 8 - August 1984

Contents - List of Office Bearers of the Society for 1983-1984
 - President's Report
 - etc.

SSS Journal Vol. 28 No. 9 September 1984

Contents - Preliminary report on the third Explorers club expedition to
 Chillagoe June - July 1984
 - Description of Explorers cave CH355
 - Reprints - Vandalism a threat to unique Chillagoe sites
 - Oven bags for what? - use of oven bags for archives
 storage
 - Trip reports - Where the limestone runs forever and the caves are
 never ending - Chillagoe 5-7th May 1984
 - General exploration at Chillagoe 5-19th May 1984
 - Presidents Column - Jenolan hydro electric plant
 - Bungonia cave rescue
 - Obituary Joe Jennings

SSS Journal Vol. 28 No. 10 October 1984

Contents:- Chillagoe Caves Expedition 1984

- Trip Reports - Gas sampling trip Bungonia 19th - 20th May 1984
- Freeze a Breeze at Bungonia 23rd 24th June 1984
- Enjoyable caving at Colong 16th 17th June 1984
- Surface surveying continued Wombeyan 24th 25th
 March 1984
- Maps - Wombeyan surface map - tagged cave entrances below old
 quarry plateau
- W75 Wombeyan
- Presidents Column - Speleosports cancellation
- Michie phone system
- Expansion of Bungonia SRA
- Appointment of H. Coleman as Trustee of
 Bungonia SRA

SSS Journal Vol 28 No 11 November 1984

Contents - New Zealand Mini Expedition Christmas 1983,
 Hill

Takaka

- Greenlink tackle description update
- Plan for a cave dive in Bullio Cave, Wombeyan Caves
- Trip Reports - a visit to Toms Creek Cave, Comboyne
- Essentially a photo-tagging trip - Jenolan, Wiburds
 Bluff 17-18th March 1984
- The cavers picnic - Bungonia 19-20th May 1984
- Low CO₂ levels at Bungonia 21-22nd July 1984
- Presidents Report - SSS relations with clubs & govt bodies
- Erik Hallert's article in Helictite 21(2)
- Meeting with Ernie Holland at Jenolan
- Ross Ellis surprise party
- Cavers in print - "Australia Adventurers"
- New bushwalk at Jenolan
- Dave Martin's success in NZSS Cave Photo Comp.

SSS Journal Vol 28 No 12 December 1984

- Contents - New Zealand Mini Expedition - Nettlebed
- Review - Anthodite
 - Reprint - How I found the new cave at Jenolan by John Bonwick
 - Disease causing bat fungus discovered in Australia
 - Trip Reports - How not to map a cave - Wombeyan 11-12th August 1984
 - A swinging trip to Wyanbene 18-19th August 1984
 - Bungonia blows 18-19th August 1984
 - New Passage Discovered in Wiburds Lake Cave Jenolan 14-15th April 1984
 - Presidents Column - Cavers Dinner
 - ASF karst index
 - Vicki Bonwick has nearly mapped all Bungonia SRA
-

SUSS Bulletin - Volume 24 Number 2 June-July 1984

- Contents - Trip Report- Cooleman, Master
- Wee Jasper, May 12th-13th
 - Jenolan, May 14th-15th
 - Ice Pick Follies Mammoth Cave Jenolan
 - Jenolan, May 26th-27th
 - Jenolan May 27th-29th
 - Jenolan June 2nd-3rd
 - Tuglow June 2nd-3rd
 - Case Study No.2: Disused Wynyard Tunnels

SUSS Bulletin Vol.24 No. 3 August-September 1984

- Contents:- Report Of Diving accident - Picaninnie Ponds
- Wild speculations on Wiburds Lake cave Jenolan
 - The geomorphology of the Palantear Spider cave Jenolan
 - Pseudokarst - No.3 Drains of North Sydney
 - Was Dante in Dwyers Cave (J41)
 - Trip leader requirements
 - Obituary - Joe Jennings
 - The adventures of Jamison Valley in the case of Mammoth Bluff
 - Trip Leaders 1984
 - Bursars Circular - Public Liability insurance
 - Trip Reports- Sifiri Cave Vanuatu January 1984
 - Mammoth Cave Jenolan 15th May 1984
 - Jenolan Southern limestone Tagging J275, J276, J277, J278, J279, J280, J281 23rd-25th May 1984
 - Yarrangobilly 9th-11th June 1984
 - Wahroonga Rocks Field day 24th June 1984
 - Wombeyan 17th-18th August 1984
 - Hauling systems
-

Trog - Newsletter of the Kempsey Speleological Society Vol. 19 No. 4 May 1984

- Contents - Preparations for cave rescue practice
- Willi Willi Bat cave - letter to NPWS re-gating of cave

Trog - Newsletter of the Kempsey Speleological Society Vol. 19 No. 5 June 1984

- Contents - Final notice of dinner to celebrate 25th anniversary of KSS
- ASF abseiling guidelines
 - Trip report - Carrai and Bat cave 3rd June 1984

DOWN UNDER ALL OVER

VSA: 1984 was a busy year for VSA, with regular trips almost monthly and major trips to Mt. Anne in Tasmania. In June, the annual VSA/CECSA dinner was held at Naracoorte, and several 'beginner' sessions were held throughout the year, on S.R.T. and surveying. November saw a small group under the leadership of Lloyd Mill, head of to Yarrangobilly, where four days were spent looking at the major caves, including Eagles' Nest. A traverse on foot down the Yarrangobilly River allowed some new caves and some rarely-visited caves to be entered, surveyed and mapped.

In February 1985 Miles Pierce and nine fellow-travellers found a new cave and entered several neglected caves at Warrnambool, while in May, the significant archaeological sites in the caves at New Guinea Ridge were visited by Rudy Frank and two official VSA guides.

April 1985 was the time to celebrate Easter in Tasmania, which seems to be becoming almost an annual event. A VSA team surveyed to the bottom of the new chamber in Anne-a-Kananda discovered in Easter of 1984 and the depth was found to be only 345 m, not 396m as originally estimated. Brian Carter led the 10-strong party.

There was a return to Tasmania on the Melbourne Cup weekend (November 1985), visiting the Weld River region. This involved an epic 24-hour trip to Arrakis, a truly impressive entrance with a disheartening propensity to rockfalls. The extended trip was somewhat alarming to our Tasmanian hosts, who called the State Search and Rescue when the party failed to appear at the scheduled time. Three members of the party were able to descend the 67m entrance pitch, which had been rigged the weekend before by SCS. Derigging took some time, as did the long hike out with all the equipment. It was only afterwards that the VSA team realised that the rigging parties had taken three weekends to haul everything in. Before flying back to Victoria, a morning was spent in the aptly-named Loons Cave.

February 1986 saw a return to the Glenelg River region, under the able leadership of Miles Pierce. This area has been somewhat neglected, but it is hoped that at least one trip each year will head down to

the west of the state. There was also a visit to Warrnambool area, where relations with local landowners were renewed.

Labour Day was also spent in Tasmania, this time the Ida Bay region. Tourist-style SRT trips were made to Milk Run and Midnight Hole, and some traverse surveying done in the North-west Passage of Exit Cave. The success of the VSA trips to Tasmania has owed a great deal to the generosity and hospitality of Tasmanian cavers, particularly Phil Jackson and Arthur Clarke.

The Anzac Day weekend saw one of the most successful Search and Rescue weekends for many years. Upward of fifty VSA members and associated people joined with the Police Search and Rescue for a weekend of S & R practice and a trade of information and experiences. They learned a lot from us and we learned a lot from them. Two simulated cave rescues were performed, as well as a certain amount of sporting caving.

The Queen's Birthday saw a continuation of the resurgence (groan), with another large group of VSA cavers, plus a few Tasmanians, heading down to Buchan. The intention was to conduct a large-scale water-tracing experiment and to take some water samples for analysis. Unfortunately, there had been little rain at Buchan since January, which prevented any worthwhile tracing. Some water samples were analysed, but most VSA members disported themselves underground. With the revival of interest in Buchan, more trips there are likely for 'serious' speleology.

Michael McBain

BMSC: This year, activity began with a 20th Anniversary Caveman Dinner held at the Shearer's quarters Cliefden. The present members were joined by the Founding members, OSS & NEWCAVES to celebrate twenty years of safe caving. At the celebrations long service awards were given to two of our members, Ian Bogg and Lionel Baker. The Anniversary Dinner was followed the next day by a bushranger re-enactment and a tour of the 'Cliefden' homestead organised by Greg Powell and NEWCAVE Members.

BMSC are primarily interested in projects at Jenolan, Cliefden, Yarrangobilly and Billy's Creek. Under Brian Skinn's leadership the club found, and after months of digging opened 'Split Rock' in the Southern Limestone at Jenolan. They are currently digging in an-

other cave 'Funnel Web' and carrying out documentation of the Southern Limestone. Our club is assisting OSS along with UNSWSS members in the documentation of the Cliefden area. Also Graham Cummings is in liaison with Hills Speleological Club Limited with regards Cave numbering and documentation of Billy's Creek.

Trips have also been led to other areas, Tuglow, Wee Jasper, Borenore, Bungonia and Tasmania. Our main executive aim for 1986 is to increase our low membership numbers.

Tony Ellis

* * * * *

SPELEOTEC '87

REGISTER NOW!!

Helictite

JOURNAL OF AUSTRALASIAN CAVE RESEARCH

PUBLICATION ANNOUNCEMENTS - SPELEOMANIA CONFERENCE PROCEEDINGS
- HELICTITE INDEX
- HELICTITE VOLUME 24

The Speleological Research Council and the Australian Speleological Federation announce the publication of 'Papers Presented at the 15th Biennial ASF Conference'. The proceedings of the 1985 Speleomania Conference held in Tasmania have been published as Issue 23(2) of HELICTITE. They contain papers on surveying techniques, cave to surface communication, aquatic cavernicolous amphipods and aeolian calcarenite as well as abstracts and references to other papers given at the conference.

The Proceedings are available for \$6.00 (post paid) from the Speleological Research Council Ltd.

* * * * *

The Speleological Research Council also announces the publication of a Cumulative Index to HELICTITE, Journal of Australasian Cave Research. Compiled by Andy Spate, it includes Papers, Abstracts, Reviews, Subject and Geographic Indexes. It covers the period from 1962 to 1984 (HELICTITE Volumes 1 to 22). Published as a supplement to HELICTITE

Volume 23 it is available separately for \$6.00 (post paid). A must for all speleological libraries.

SPECIAL OFFER: Buy a 1985 HELICTITE subscription and receive HELICTITE 23(1), SPELEOMANIA PROCEEDINGS AND HELICTITE INDEX for \$12.00 (post paid).

* * * * *

The current volume of HELICTITE is volume 24 and will comprise two issues to be published during 1986. One issue will be the Proceedings of the Australian Caves History Seminar that was held at Jenolan in November 1985. If you are a speleologist and not just a caver why not subscribe to HELICTITE, Australia's only journal of Cave Research. An annual subscription is \$12.00 (post paid). All back numbers of the journal are available.

Send orders and subscription with payment to:
 SPELEOLOGICAL RESEARCH COUNCIL LTD.
 PO BOX 183, BROADWAY, NSW. 2007

* * * * *

Registration Form

To be filled in and returned to: Speleotec '87
c/- Ian Mann,
28 Stephen St.,
LAWSON NSW 2783

NB. Camping charges and registration fees MUST be returned with this form.

Name:
Contact Address:

1. Registration details:

enter name of registrant or registrants and cost.

~~\$25.00/head if before 11/7/86~~

~~\$30.00/head if before 30/9/86~~

\$35.00/head if after 30/9/86

\$15.00 for proceedings

Name	Cost

(the date will be taken as that postmarked on your reply)

2. Accommodation: cross out that which is not required

i. camping ii. college iii. none required

if i. camping: a. no. of adults at \$2.00/night.....=

b. no. of children at \$1.00/night.....=

c. no. of nights =

* Total camping cost =

*(To obtain camping cost add up cost of adults/night plus cost of children/night and multiply by no. of nights).

if ii. college accommodation: no. of adults

no. of children

type of room preferred

(these will be paid for on arrival)

3. Speleotec Bar-b-que

Cost

No. of adults at \$4.00 each =

No. of children (over 5) at \$3.00 each =

4. Cavepersons dinner

Cost

No. of tickets at \$15.00 per head =

Would you prefer a vegetarian meal? Yes / No

5. T - shirts

Are you interested in a Speleotec '87 T-shirt at \$8.00 each?

Yes / No if so what size

6. Field Trips

If you wish to participate in trips to any areas listed in section 5* please complete the following:

Area Date preferred No. of people likely in party

.....
.....
.....
.....
.....
.....

* Details and general availability are outlined in section 5 of the Speleotec information sheets. Further details will be forwarded to you prior to the conference.

7. Papers

I wish to contribute a paper in the category
..... and its title will be

NB. Please return registration fees, camping charges, money for bar-b-que tickets and money for dinner tickets with this form.

Speleotec '87 Information Sheet was sent out with
Australian Caver No 109.