OOLITE

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O O L I T E

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C O N T E N T S.

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OFFICE BEARERS - 1971.

The duly elected Office Bearers for 1971 are as follows :-

Committee.

President.	Ian Bogg.
Secretary.	Barry McWilliams.
Treasurer.	Ken Pickering.
Equipment Officer.	Dave Ward.
Committee Members.	Ron Thomas.
	Stan Thomas.

Office Bearers.

Journal Editor	Ken Pickering.
Librarian.	Ailsa Thomas.
Assistant Equip. Officer . .	Barry Richerds.

NEW MEMBERS.

B.M.S.C. welcomes into the Club :-

Unita Mumby.	Gwen Fairweather.
Gordon Wright.	Geoff Deane.
Phil Riley.	Eric Ockenden.
Terry Corcoran.	Harry Ockenden.
David Schwarze.	Rodney Ockenden.

N.S.W. - CAVE MAPS - LISTING.

Through inter-club co-operation, S.S.S. mapping co-ordinator, Robert Hawkins, has prepared a comprehensive listing of N.S.W. Cave Maps. Any member of B.M.S.C. interested in surveying, should refer to the listing in order to prevent unnecessary duplication. This listing can be found in the 1970 - 1971 Year Book of the Sydney Speleo Society, a copy of which is available from the Librarian, if you ask her nicely.

A VISIT TO THE LAVA CAVES OF VICTORIA.

By Ken Keck.

Having just returned from a visit to some of the lava caves to be found in south western Victoria, perhaps some notes on these "different" but very interesting caves may be of some general interest to our members.

The trip included visits to the Skipton Cave at Mt. Widderen, the Sausage Cave, Hamilton Cave, and Insect Cave, at Mt. Hamilton, the shaft at Mt. Eccles, and seven caves of varying magnitude on the Byaduk Lava Flow which emanates from Mt. Napier.

To appreciate these caves one should first have some understanding on the theories advanced for their formation. In his paper "The Landforms of the Newer Volcanic Province of Victoria", C.D. Ollier writes - "When lava flows, the surface in contact with the air cools more quickly than the inside and therefore solidifies faster. Most Geologists agree that caverns are formed in basalts by draining out of liquid below the solidified upper crust of a flow.

If anything, the foregoing tends to over-simplify the process of formation, but very broadly the Victirian Lava Caves are of this type. A theory advanced by Skeats and James (1937) that the caves formed as great hollow blisters which were buried under later flows is certainly not acceptable when the caves are observed objectively.

Some lava caves occur on the flanks of volcanic cones, some occur in valley flows, and some on lava plains built up by earlier eruptions of adjacent volcanoes.

As as idea of the size of lava caves visited on this trip, the main chamber at Skipton is 198 ft. long, has a maximum width of 65 ft. and is 26 ft. high. The Church Cave at Byaduk contains a chamber roughly 158 ft. long abd about 26 ft. high. Mt. Hamilton Cave has no great chambers but has a total length of passages of approximately 2950 ft. Contrasting with these dimensions the Shallow Cave was visited at Byaduk, and while this is a normal lava tunnel of the shape predominant in these caves, the roof was nowhere more than 42 ins. high although it would have been a good 7ft. wide in most of its length. We found after leaving Byaduk that this cave had not apparently been surveyed as it is one of the more

recent discoveries in this area, and the writer would estimate a total length of approximately 80 ft.

As Skipton was the first cave visited it was naturally of great interest, and the following observations were noted. The walls are covered with extensive patches of a luminescent fine fungoid growth. It reflects light best when wet, and drops of water are often found on it. All wet surfaces in the cave do not have this fungus. Sections of the wall are coal black and others are a rusty orange colour. The lava rock seems very granular.

The walls also have extrusions of a creamy soft substance not unlike moon-milk, but it tends to flow down the walls from cracks in the rock. Near the entrance to the Ballroom section at the northern end there is a stalactite of this material about 1 inch long and seemingly about the same diameter as the normal calcite straw. It is white, but stained brown in parts. On the roof near the wall of the main chamber some of these stalactites were noted up to 4 ins. long. It was interesting to notice that the solution hanging from these stalactites varied in colour - clear to a deep rust brown, but this did not appear to be influencing the colour of the resultant stalactite.

This cave finishes in a lake from which water is piped for surface use, and the chamber leading to this lake is itself very wet with an interesting squeeze through a rock pile to gain access to it. The Skipton Lava Cave is notable as containing deposits of Newberyte ($H\ Mg\ PO_4\ 3H_2O$) and Struvite ($NH_4\ Mg\ PO_4\ 6H_2O$) both of which are very rare minerals not found in other lava caves in the area.

Some observations of cave temperature and humidity were taken with the following results :-

Surface conditions - Showery and Overcast

Surface.	Temperature	59 deg.F	Humidity	94.0%
Main Chaber.	"	51 deg.F	"	93.8%
Ballroom.	"	52 deg.F	"	94.0%
Lake Surface.	"	52 deg.F	"	99.0%
Water Temp. of Lake	"	52 deg.F	-	-

Our visit to Mt. Hamilton commenced with a walk to the crater; being theonly perfect lava cone in this area. The "mountain" is 200 ft. high, but has a crater 1320 ft. wide and 96 ft. deep. The crater has steep inner walls which are unbreached, but the outer slopes have gradients of only about 4 degrees and merge into the surrounding plain. The caves are found on the flanks on this mountain.

The Sausage Cave was visited, as in other caves on Mt. Hamilton, being entered by a vertical drop to the cave floor. It is notable for the regularity of its development (see maps accompanying this article) and the lava decoration in the form of small stalactites and a lava fountain at the far end of the cave.

The main Mt. Hamilton Cave was entered through a vertical hole in an exposed outcrop of lava rocks. This cave also has a lake at one end, and it was in one of the passages high up in the cave that deposits of gypsum crystals were found. These took the form of very fine spirals and flower formations, and were the finest seen on this trip. Mt. Hamilton Cave consists of several tunnels of almost walking height, with some interesting crawls. One in particular stands out in one's mind where the floor is covered by small balls of what appears to be mud, but which proves hard as ball bearings, and makes any crawling most uncomfortable. Specimens of these balls have been taken for detailed analysis.

Temperature and humidity readings in this cave showed some fluctuations as noted below :-

Surface conditions - Overcast and showery, strong winds.

Surface.	Temperature	54 deg.F	Humidity 94.0%
Below entrance.	"	55 deg.F	" 94.2%
Station 1 (map)	"	59 deg.F	" 94.6%
" 2	"	58½ deg.F	" 94.6%
" 3	"	56½ deg.F	" 97.0%
" 4 (gypsum helictites)	"	60 deg.F	" 94.7%
" 5	"	57 deg.F	" 94.6%
" 6	"	60 deg.F	" 89.0%
" 7 (lake)	"	60 deg.F	" 94.7%
Water Temp. of Lake	"	59.6 deg.F	- -

The Insect Cave was visited but proved to be of similar structure to Mt. Hamilton Cave but much smaller.

The next area visited was Mt. Eccles which is a National Park area and which includes Lake Surprise, which is in fact a lake some 700 yds. long, 200yds. wide and 43 ft. 6 ins deep at its deepest point. formed in the crater of the volcano . Due to its elongation and its general shape this is probably a series of craters rather than just one. No river or creek runs in or out of the lake and ground water from the surrounding country seems to be the main source of supply. Its surface rises in winter and falls in summer, but it is never dry. At the northern end of the lake but high up in the crater rim is found remains of an old lava canal and geologists say that the last lava to flow from the volcano took this course. Mt. Eccles is regarded as the most "recent" of theactive volcanoes in Victoria, it having been estimated as being active only 5,000 years ago.

Near the Canal but on the eastern side is the Mt. Eccles Lava Cave which is entered very easily by an incline leading to a level dirt floor about 8 ft. below the cave mouth. This cave has been the usual lava cave development with a level floor and arched roof which gradually closes down to the dirt floor.

Also in the National Park is what is technically known as a "spatter cone" or a small subsidiary vent to the original volcano . This particular one is some 90 ft. deep with a 70 ft. ladder pitch followed by a scramble over loose lava rock down another 20 odd ft. to the bottom where it closes off into a vertical fissure. The descent is well worth the effort, for not only is it a beaut ladder pitch, but the formation of lava decoration at the foot of the vent is well worth viewing. The following readings were taken :-

Surface Temperature	62 deg.F	Humidity	54.0%
Shaft bottom.	49 deg.F	"	100.0%

The major area of interest proved to be the caves on the Byaduk Lava Flow which is located in the Harman Valley where the flow from Mt. Napier is constricted from 2 miles wide to a width of $\frac{1}{8}$ mile. The flow is about 15 miles long and can be clearly traced from the edge of the crater of Mt. Napier which we subsequently climbed.

The exact thickness of the flow cannot be found as there are no exposed cross sections going down to the base. However the depth of floor of the deepest caves is 70 ft. below the top of the flow. The valley sides have a fairly steep slope, and it is believed that the flow may be over 100 ft thick (Ollier and Brown 1964)

We proceeded to the known caves farthest from our cars, which were parked at Harman 1 cave. This entailed about a twenty minute walk over very rough rocky ground, well covered in bracken fern to hide loose rocks underfootfrom the unwary. During this walk we were impressed by the very large collapse sinkholes, some being as long as 400 ft. and about 150 ft. wide.

The first cave entered was Brown's Cave which proved to be quite small with at least two entrances to the surface. It was a low crawl and obviously used by foxes and other animals as a shelter. Here the roof was arched in what we were later to recognise as typical lava cave form.

Leaving Brown's Cave we set up a ladder into the Fern Cave. This sinkhole is 35 ft. across and located over the centre of a lava tunnel. The collapsed material forms a cone 17 ft. beneath the entrance and is covered with ferns which gave the cave its name. It was here that we encountered what proved to be the first of many tiger snakes, although the rest were all found in the limestone caves at Naracoorte later in our trip.

Passages lead both north and south from the entrance, and the tunnel has a maximum height of 12 ft. In this cave we found what appeared to be secondary calciferous formation including stalagmite stubs and apparent rimstone pool development. A specimen was taken and will be submitted for analysis and report. There was noted a large deposit of guano in the N.E. section although bats were not present when we visited the cave.

The Turk Cave was next entered by way of a climb down a rock pile at one end of the sinkhole. This cave has two distinct sections - the first being very large and floored almost completely by rock fall except where along one wall the original lava floor can still be seen. This part is about 100 ft. long, 50 ft. wide and 20 ft. high.

The second or inner section is reached by a low tunnel which is roofed with lava decoration very similar in appearance to fine cave coral we are accustomed to see in limestone caves. Further information is being sought on these and will be the subject of a follow up article if this is warranted.

Temperature and humidity readings were taken at Turk Cave and were as follows :-

Surface condition.	Temperature	61 deg.F	Humidity	63.5%
End of 1st. Section.	"	56 deg.F	"	94.0%
End of 2nd. Section.	"	54 deg.F	"	94.0%

The second or inner section of the Turk Cave is an asymetric lava tube which contrasts markedly from the outer section in that there is virtually no collapse, the original lava rock remaining almost intact and the floor is a fresh lava surface. Near the eastern end the floor is fractured into segments about 18 ins. across which have been forced up against each other and have developed very attractive upturned edges not unlike water lily leaves. A small bench or ledge occurs along the south wall. This represents a former lava level about 9 ins. higher than the present floor level, and we were to see a more pronounced development of this structure in the next cave we visited.

This was known as the Staircase Cave and was entered in a comparatively small sink only about 10 ft. across which took quite a bit of locating. The cave is small in relation to the Fern, Turk, and other caves we were yet to visit, but it proved to rank among the most interesting. It is reported by Ollier and Brown (Jan. 1964) as consisting of a single chamber (large), roughly circular in plan and about 50 ft. in diameter with steep walls and an average ceiling height of 10 ft. We were able to force another extension at the bottom of the eastern wall of this cave which gave us access to a similar large chamber with remarkably good decoration of ropy lava and stalactites.

Credit must be given to Keith Oliver (H.C.G.) for gaining our access to this section which entailed a most uncomfortable squeeze through sharp lava rocks at the lowest part of the floor of the first chamber. The eastern wall of the first chamber is responsible

for its name as it consists of a series of steps, the risers averaging 1 ft. and the "treads" vary from 2 to 18 ins. wide. They have a glazed surface of bubbly lava and slope back away from the centre of the cave. There is a wide range of colour in the decoration in both parts of this cave, and an aspect of conservation observed by previous visitors was commended by our party. Instead of the usual scribble on the walls, these people had written their names and date of visit on a piece of paper and folded it neatly on a lava ledge. In other words, if you MUST leave your name this is the lesser of two evils.

In the climb down to the second chamber of this cave a frog was noted on the cave wall clinging to some lava "coral" and stalactites. This specimen was brick red in colour, matching somewhat the general colouration on the lava in the cave. Initially, it seems to identify as species Hyla ewingii but a photograph is awaiting before anythingpositive can be established.

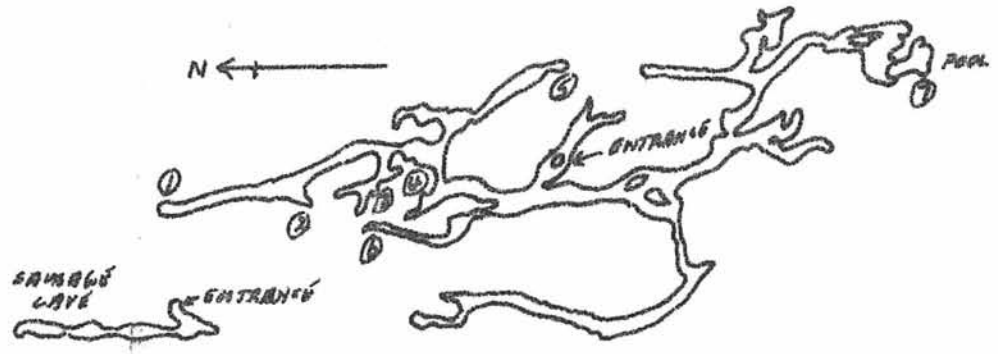
Temperature and humidity readings in this cave were :-

Bottom - Staircase Feature.	Temp.	53 deg.F	Humidity	94.2%
Top -small staircase chamber.	"	57 deg.F	"	88.7%
Cave bottom at squeeze.	"	51 deg.F	"	100.0%

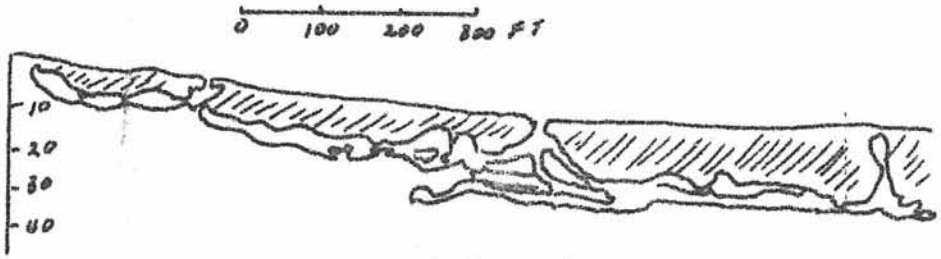
Our second and final day at Byaduk commenced with climbing Mt. Napier and inspecting the volcanic cone, after which we drove back to Harman 1 cave. A very large but unidentified bird followed us into this cave and flew into a hole in the roof. The cave is entered from a large sinkhole and is almost straight in plan with a flat floor and arched roof. It is 360 ft. long, between 35 and 45 ft. wide, and averages about 16 ft. high. The floor slopes gently at about 1 degree and ends at the western end where the roof comes down abruptly to meet the lava floor. At the end of the cave the floor is arched into a lava dome some 40 ft. in diameter which is like a large blister and is cracked in places.

Harman 2 was then entered and Bill Patrick found the connecting crawl through the rock pile to link with Harmam 1.

The last cave visited was the Church Cave which proved to be the "daddy of them all". It commenced from the very large sink mentioned earlier in this article, and is floored by fallen rock

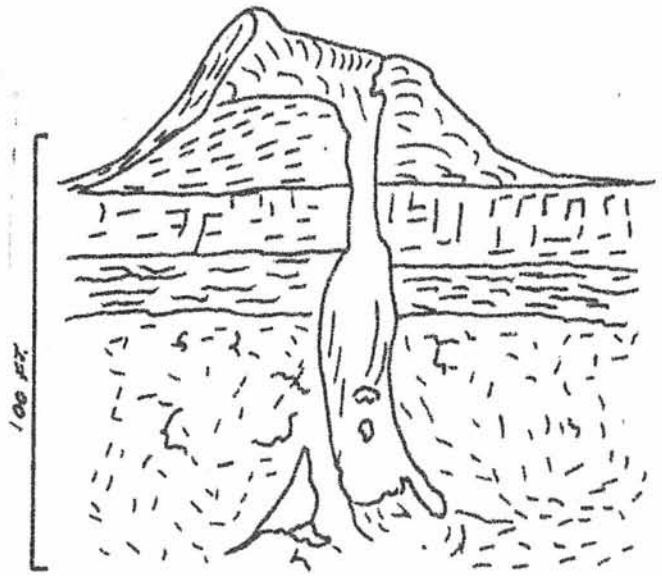


PLAN



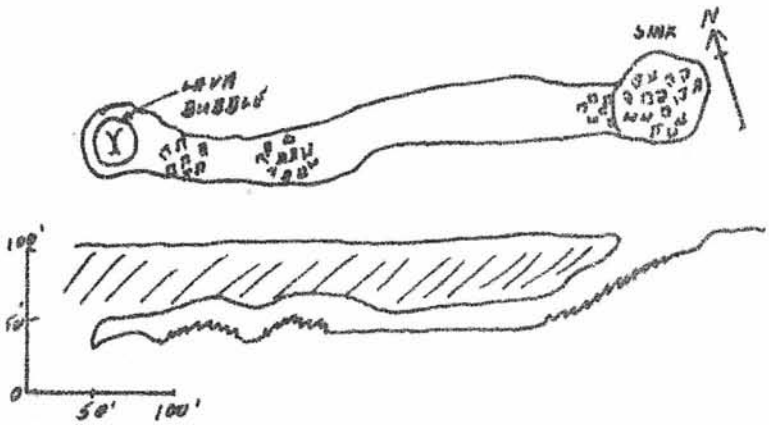
ELEVATION

MOUNT HAMILTON & SAUSAGE CAVES

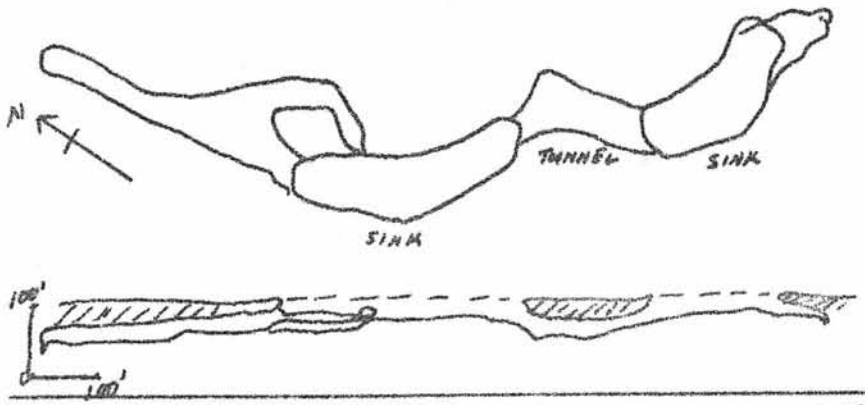


SPATTER CONE AT MT. ECCLES

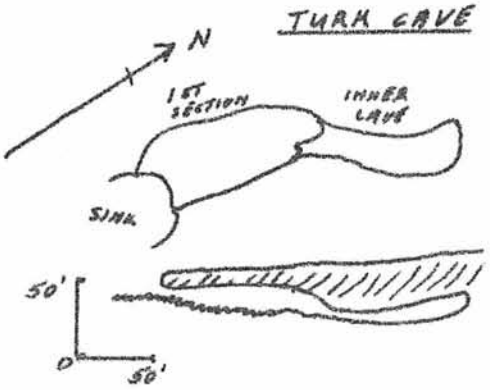
HARMAN NO 1.



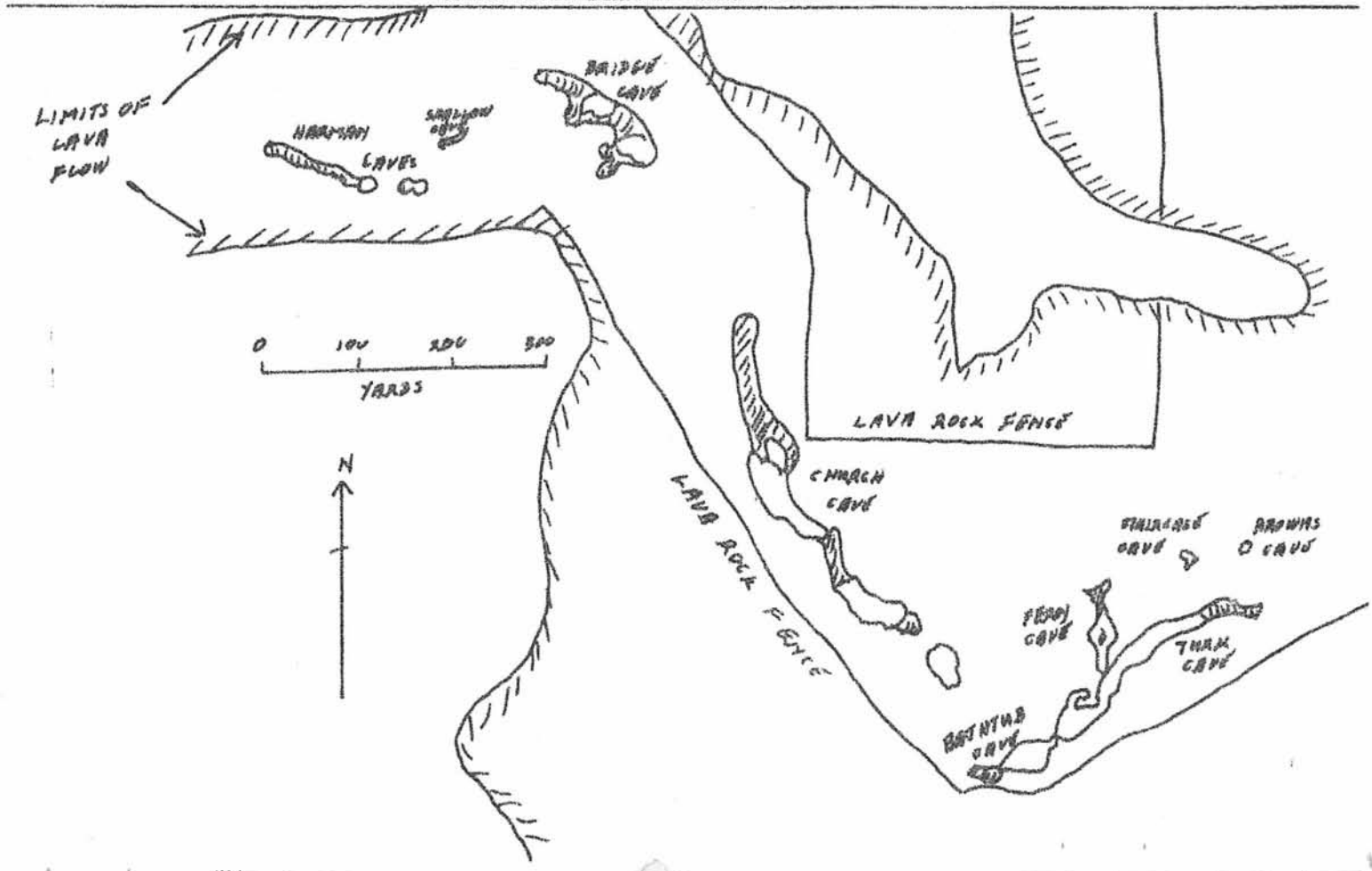
CHURCH CAVE



TURK CAVE



GENERAL PLAN - RYAZUK



for much of its length. It has passages totalling 600 ft. in the western extension alone and an overall length including the sinkhole of over 1300 ft. The whole cave is massive, and as mentioned in the opening section of this article, has one chamber roughly 158 ft. long and 26 ft. high with an average width of about 50 ft. In parts the roof is much higher than this but the tunnel size remains about the same throughout.

There is an extension running back from the main cave and opening into a small hole in the side of the sinkhole. At the junction of these two passages is a large pile of guano about 15 ft. high and a colony of approximately 60 bats was noticed in the roof high above this heap. In this part of the cave it was particularly wet and calcite (?) formation similar to that noted in the Fern Cave was found in many places. A specimen was taken in case of a variation in composition from the earlier sightings and will be analysed.

Temperature and humidity readings in this cave were :-

End - Entrance rock pile.	Temp.	50 deg.F	Humidity	93%
Far end of main cave.	"	50 deg.F	"	100%
Guano pile - extension	"	51 deg.F	"	100%

The trip to the lava caves in early January 1971 was organised by Bill Patrick of H.C.G., and his preliminary study and enthusiasm did a lot towards making this one of the most worth-while caving ventures with which the writer has been associated.

Acknowledgements are made to papers by C.D. Ollier in preparing many of the details of this article, and these are listed in the bibliography.

BIBLIOGRAPHY.

Ollier, C.D. "Landforms of the Newer Volcanic Provimce of Victoria"

Ollier, C.D., & Brown, M.C. "The Byaduk Lava Caves."
Victorian Naturalist Vol.30 - Jan 1964

Editor's Note.

Volume 1 No.2, of this journal contains an outline of the formation of Lava Caves, based on Ollier's contributions to "Landform Studies of Australia and New Zealand."

H I S T O R I C A L F E A T U R E.

A VISIT TO THE BELUBULA CAVES.

The Belub la gets its name from the Aboriginal word meaning "twisting snake" because of its "S" bends.

The Caves were discovered many years ago by a man named Rittmeister, who when Kangaroo hunting, observed steam rising from a huge cleft in the limestone one winters morning. Later he explored the caves, descending to a depth of nearly eight hundred feet at a distance of about a mile from the entrance.

The various members of the Hosie family of Carlton station, nearby are deserving of the greatest credit for their enthusiastic pioneering work in exploring these caves.

The Shepherds Cave gets its name from a tragic occurrence which happened about 50 years ago. The district was then uninhabited, except by "sheep" and shepherds. One of the shepherds had about £1 in silver which he was in the habit of counting and the sight of so much excited the cupidity of his mate, who killed the unfortunate capitalist, cut his body in halves and droped it through an opening in the roof of the cave, where it lay undiscovered for weeks. The murderer left the district, being impelled by some morbid feeling, he returned and aroused suspicion by wandering around the scene of crime. He was ultimately arrested, confessed and paid the penalty.

EXTRACT.

Anderson, C., 1924. Australian Museum Magazine, Vol. 2, No. 1.

H I S T O R I C A L F E A T U R E .

THE HISTORY OF CARCOAR, 1815 - 1881.

Gevernor Darling, April 22, 1831, ordered grants of 2460 acres to Frederick John and William Montagu Rothery, located on left bank of Limestone Creek, named Cliefden Springs and Cliefden respectively from Cliefden in Bucks, England.

An immense area of unexplored land beyond the boundaries of the six counties of Bathurst, Roxburgh, Westmoreland, Georgiana, Wellington and Bligh was the refuge for stock thieves, absconders, bushrangers and spirit dealers inthe period 1830 - 1840.

On Cliefden on Limestone Creek, explorer G.W. Evans discovered the first limestone deposits on the Australian mainland, May 24, 1815. 26 miles to the south east are the Abercrombie or Barrangylong Caves. A painting of these caves by Conrad Martens is in the Mitchell Library.

Cliefden Springs afterwards acquired by W.M. Rothery and incorporated into the Cliefden Estate.

The Cliefden homestead was "stuck up" and all its inmates were held prisoners by Ben Hall's gang of bushrangers on September 26, 1863, when after burning the haysheds, stealing some horses and compelling Rothery to provide them dinner, they went on to hold up the village of Canowindra.

Walker Rannie Davidson, Surveyor General, 1862 - 1868 was stationed at Bathurst till 1861. In 1843 he located the Abercrombie Caves and reported on their formation and extent.

EXTRACT.

STEEL, Watson A., 1931. Journal, Royal Aust. Hist. Society
Vol. XVII, Part IV

B O O K R E V I E W

AUSTRALIAN ROCKS, MINERALS AND GEMSTONES.
Chalmers, R.O.C., Angus and Robertson - Sydney. 398 pp.

This textbook deals with the geological occurrences of, and provides a comprehensive and authorative description, of all known Australian Rocks, Minreals and Gemstones. It is profusely illustrated with 48 colour plates of gemstones and ornamental stones and 66 black-and-white plates showing the development of Australian mining and of rock and mineral specimens.

The text is broad with the contents ranging from Geology and the Mineral Collector; Rocks - formation and recognition; Crystals - shapes and groups; Minerals - crystallography, physical and chemical properties, formation and geological occurrences, simple identification tests; Gemstones and Ornamental stones; How to collect and care for minerals.

The book contains an extensive bibliography and the subject index is supplemented by an index of localities which provides easy reference to places of geological interest referred to in the text.

Whilst the book is primarily a guide for the layman interested in increasing his knowledge of mineralogical science and geology, there are many references of speleological interest, principally, pages 37 - 41, 68 - 69, 135, 137.

Ian Bogg.

ELECTRIC CAP LAMPS.

General description of the construction of electric cap lamps, and three methods of charging, care and maintenance of same, can be found in the Journal of the Sydney Speleo Society, 15 (2). The article also includes a circuit diagram for a Battery/Mains Constant Voltage Charger.

Interested? the club librarian will gladly loan you the Journal, if you ask her nicely.

B O O K R E V I E W

A GLOSSARY OF KARST TERMINOLOGY.

Compiled by Watson H. Munroe.
United States Department of the Interior Geological Survey Water-Supply Paper 1899-K; 26 pp. 25 cents from U.S. Gov't Print. Office.

This glossary published in 1970 includes most terms used in describing karst geomorphologic features and processes and has been compiled mainly from published definitions and suggestions made by investigators in karst geomorphology. Included in the cited investigators are two notable Australian speleologists, Reuban Frank and Joseph N. Jennings.

As stated in the introduction, the terms are primarily those used in the literature of English-speaking countries, but a few of the more common terms in French, German, Spanish and Slavic languages are included, with references to the corresponding English terms where they are available. The glossary also includes simple definitions of the more common rocks and minerals found in karst terrain, common terms of hydrology, and a number of definitions or descriptive terms used by speleologists. Most biospeleological terms , descriptive terms of geological structure and varieties of carbonate rocks that require microscopic techniques for identification and names describing tools and techniques of cave exploration have been omitted.

Particular care has been devoted the definitions (approx. 500) They are given clearly and concisely, but fully, and are couched in such language that there is no need to make recourse to etymological references.

A terminology classification supplement, whereby all definitions have been classified according to their karst geomorphologic features and processes, is included in the paper in conjuction with elemen selected references. The classification of terms are "Cave - Depositional Features; Caves - Erosional and Solutional Features; Caves - Kinds,; Caves - Parts; Chemical, Mineral and Rock Terms; Hydrological Terms; Karst - Depressional Features; Karts - Hill Features; Karst - Kinds; Karst Forms - Minor;

Miscellaneous Terms and Processes."

For all speleological socities and/or speleologists, interested in karst geomorphology, this paper would be a worthwhile addition to their library, if only from the point of terminology uniformity. It also has the added advantage of being inexpensive.

Ian Bogg.

SPECIMEN IDENTIFICATION.

On the 12th. December, 1970 a metal band was located near the remains of a bat by Stan Thomas. This was forwarded onto the C.S.I.R.O. Division of Wildlife, who have since supplied the following information :-

EASTERN HORSE-SHOE BAT, Rhinolophus megaphyllus.

Age: ADULT.
Sex: FEMALE.
Banded: 27th. October, 1963.
Bander: J. McKean, Division of Wildlife, C.S.I.R.O.
Place: Humidicrib Cave; Wee Jasper.

YOUNG COVE, OLD CAVE.

TASMANIAN cavers are excited about a speleological discovery under a hum at a place called Mole Creek.

So let's take that statement apart.

A caver is a person who likes exploring caves - in this case a member of the northern branch of the Tasmanian Caverneering Club. A hum is defined as "a solution eroded hill". Speleology is the science of caves.

And it all boils down to the fact that Ian McKendrick, 23 of t Launceston (T) was the first man down inot a new cave complex he called "Ho Hum" at Mole Creek.

Extract: Australasian Post, February 18, 1971; p23.

HELICTITES - HYPOTHESIS OF ORIGIN.

By Ian Bogg.

Perhaps more hypotheses of origin have been proposed for Helictites than for any other class of speleothem. To add further to these hypotheses, Dr. F.Guttman, a Sydney research chemist has offered what seems to be a convincing explanation of their origin.

He explains their origin as being due to the "Teapot Effect". It is well known that when pouring tea, some of the liquid will run upwards along the spout on the underside. Similarly, solutions emerging from cracks in limestone caves or from tips of stalactites may flow upwards and as evapc ration takes place and calcium carbonate deposits, so these irregular growths build up in defiance of the laws of gravity.

REFERENCE.

CHALMERS? R.O.C., 1970 : Australian Rocks, Minerals and Gemstones. Angus and Robertson, Sydney : P69

CAVES AND BATS.

I think most people know that passing a law to protect an animal is not much use unless you also protect the place in which the animal lives.

It is not only food that is needed, since, like man, other animals do not live by bread alone.

For example bats need caves or other places (dark shelters) in which to live and breed. The destruction of limestone caves for mining purposes means that the animals which live there also die.

Perhaps the death of a few bats may not seem worth mentioning or worrying about, but consider these figures from the Mount Etna caves in Queensland.

One cave carries a population of 300,000 bentwinged bats at certain times of the year. Each night these bats devour a ton of

insects. If we can visualise a ton of insects, we can well imagine the damage these creatures could do to pastures and crops.

"Extract from Nature Walkabout with Vincent Serventy."
Sunday Telegraph, April 11, 1971.

THE KANANGRA-BOYD NATIONAL PARK.

The Kanangra-Boyd National Park has been extended by 42,500 acres. The Minister for Lands, Mr. Lewis, announced the extension to the park following an agreement with the Water Board.

The park is in the Warragamba Dam catchment, and will now cover 140,000 acres.

Mr. Lewis said the new area extended east from the Jenolan Caves reserve, then south-west towards the Kowmung River.

REFERENCE.

The Sun-Herald, Jan. 31, 1971.

THE RETURN OF THE ROVING PUERTO RICO REPORTER.

Yes, he has returned, Graham Nelson that is. The caves of Puerto Rico are justtoo BIG for him. Apparently he missed our Australian type caves, and just had to return.

No more will you read of Schistosomiosis, Rabies, Histoplasmosis, or caving with canary yellow life jackets as your constant companion. The continuing saga of the Rio Camuy Caves will not be continued, least of all by a B.M.S.C. member.

However,for posterity, Graham summarised his activities, these in due course will be published.

To Graham, Judy and family, WELCOME HOME.

CHANGE OF ADDRESS.

Graham Nelson : 26 Villorette Avenue,
Narrabri West. N.S.W. 2391.

BLUE MOUNTAINS SPELEOLOGICAL CLUB TRIP REPORTS.

BLUE ROCKS.

28th December, 1970.

Present : Ian Bogg (L), Ken Pickering.

Aim : Exploration of the Blue Rocks Limestone Deposits.

After making our way down the Capertee Valley we entered the property belonging to Mr. Scarlet, where we sought his permission to pass through his property. He was extremely co-operative and gave us explicit directions as to the limestone outcrops.

A rather abortive day was spent walking in the rain - plenty of limestone - no caves. However, the only point worthy of note is that extensive trenching and surveying has been carried out. This work is supported with illegible possession notices tacked up on trees in the area.

When we made our farewell to Mr.Scarlet he informed us that possession has been claimed by a Samuel McMahon (P.M.'s brother). He also stated that he had not been successful in locating the cave(s) at Blue Rocks and to the best of his knowledge the only other known cave in the area was situated on the property of Mr. Davis.

As we had enough of the miserable weather conditions we left the area. On the way out we decided to attempt to reach the deposit of limestone at Excelsior,
this was not possible without a 2 x 2 drive vehicle. Frustrated we headed for home.

BUNGONIA

23rd January, 1971.

Present : Ian Bogg (L), Ken Pickering, Ken Keck, Barry Richards, Ron Thomas, Stan Thomas, Barry McWilliams, Lionel Baker, Ken Hynes, Allan Gill, Terry Corcoran (P), Eric Ockenden (P), Gordon Wright (P), Geoff Deane (P), Harry Ockenden

Aim :Location and exploration of the "College Cave" and general familiarisation of other caves at Bungonia.

With all but three of the party meeting as prearranged, the party headed to the general area in which the College Cave was reported to be located.

With the party split into two groups, we very smartly found College Cave, which was entered by the smaller members of the party. This cave is the result of a doline excavation by members of the Sydney Teachers College Caving Club during 1970, and is reported to be some 250 - 300 ft long. Owing to foul air we did not progress beyond the 150 ft. mark. In many places the cave is unstable and should be entered with caution.

While some members explored the College Cave the remainder of the party searched for other holes and eventually located, entered, and explored Holland's Hole. This cave, found to be rich in fossils, with a small decorated chamber, provided some excitement for those who entered, as was evident by the general discussions upon their return. Typical of the conversation was "Hell ! I'am glad I got out of that b..... hole - its b..... tight in there.

After lunch the group made a visit to B31 in which the flatener proved interesting, both physically and psychologically. However, for those who succeeded in passing the obstacle, progress was stopped at the top of the 40ft. pitch owing to foul air.

Upon their return, they found two industrious members heartily digging and offering their assistance (mostly verbal) a depth of 5ft was reached when a halt for the day was called. During the course of the dig some bone material was located in two bands, some 6-9 ins. thick, at the 5 and 9 ft. levels. (material awaiting identification)

After leaving B31 the group cleaned up a bit then headed home.

COLONG.

5th January, 1971.

Present : Ron Thomas (L) and Bryan Deane (P)

Aim : Exploration of Woof's Cavern.

Upon entering Colong Main, we proceeded quickly to the tunnel containing the gate and on to where the shaft leads down to the lower level. At this point a party from Newcastle were encountered who informed us that they were doing the Duke of Edinburgh Award. A member of N.S.S. was instructing them in cave surveying and mapping.

Just before Woof's Caver a spider was seen on the wall and several other sightings further on were noted, ranging in colour from white through to a strong orange, all appeared to be of the same type. The book was signed and after a snack, proceeded up the steep slope from the Book to the top of the cavern.

Several tunnels were followedand then at the back of a well decorated section it finished in a rockfall. After poking around in this section we picked our way through 20 ft. of rockfall via a squeeze and into a higher cavern again.

There is plenty of live formations which are of a very dark grey to black colour. No further tunnels were found to go on and just before leaving, the remains of a bat were found and inspected. The cavern is very clean and does not appear to be visited very often as the only evidence of earlier visits was a button.

Above the beautiful live terraces where the smooth river bed rocks are piled up a very large one dislodged and wedged my foot between the rocks. By untieing the shoelaces I managed to free my foot and then it took Bryan and I to lift the rock to free the shoe.

PERAMBULATION

TUGLOW

26th March, 1971.

Present : Ken Pickering (L), Terry Corcoran, Geoff Deane, Ian Bogg.

The Tuglow Fire Trail was in a mess due to heavy rain and the Falcon was stopped by a small but very slippery hill about 1 mile before the top car park. We were contemplating the long walk when a beautiful vision appeared in the shape of Geoff Deane plus Landrover. This took us to the Kowmung level crossing, whereGeoff's wisdom in stopping was soon proven by another L.R. which followed us almost stalling in mid-stream and then not being able to get traction on the far bank. Finally it winched itself out. The current was too strong to attempt crossing on foot so we decided to try further upstream, where miraculously, we found a hand line someone had strung across the river. We all got soaked above the waist. The crossing would have been impossible without the hand line, as the current was so strong.

A group from Wollongong, with one I.S.S. member was camped at the cave, having come in the back way on Friday night.

We entered T1 at 11.45 am to show Terry and Geoff the "Diamond Mine" and the way down to "Wards Chimney". This was as far as we could go with the rope that Geoff had brought as we did not want to use the other groups gear. However we did the "Diamond Mine", etc., thoroughly and then went down to T4, the "Moonmilk" to inspect the dig. Ian got stuck again, as one pair of overalls (ripped) prove. We finally surfaced at 5.00pm after 5 hours caving.

With the weather and the soaking the party got in the river there was no enthusiasm for surveying the Horse Gully Creek which was the original intention.

The trip back was even more interesting than the one in, as the river was flowing more strongly and the fire trail had been cut up by the few vehicles that had used it. Thr Falcon performed it's traditional waltzes but came through, to the surprise of the passengers. We had a shock at Hampton to find 4 more B.M.S.C. types

taking it easy. After giving them a suitable rubbishing, we found that Alan, Mike, Gwen and Unita had spent the day trying to get in through Jaunter, only to find it impossible by lack of traction and a winch.

Conversation of the day - Tourist in V.W. heading in at nightfall, to Geoff Deane -

Tourist - "Is there a river down there mate ?"
Geoff - "Yep"
Tourist - "Can I get in ?"
Geoff - "Yep"
Tourist - "Can I get out ?"
Geoff - "Nope"

GET THERE.

TUGLOW

26th March, 1971.

Present : Mike Treharne (L) Unita Mumby, Gwen and Alan Fairweather.

Scheduled departure from Lapstone at 5.00am was cancelled because of the weather. Eventual departure at 10.00am was achieved in spite of it when, with spitits soaring like lead balloons, we hit the road, slid off, groped around in fog and found road, and hit it again. After nearly colliding with the Hampton garage we decided to make the best of it so we stayed for brunch, then stood around gazing reverently heavenward and making hopeful noises about the weather before pushing onward. On the way many interesting formations were noted, namely - Cumulus, Cumulonimbus, Nimbostratus and mud of diverse shapes, sizes and consistencies. Rain was prevalent and the rain-gauge, on the back seat of the vehicle, registered CATS & DOGS. Having decided to go in the back way, we eventually roared off the sealed road onto the dirt track.

When we had finally heaved the Rover back onto the track, our driver, in a brilliant exhibition of foresight, announced that a little less of the accelerator might be a good thing. Upon entering

a stretch of clay, polished to a showroom shine, 4 wheel drive was engaged and the Rover really did its own thing. Strains of the "Vienna Waltz" issued from beneath the bonnet as it proceeded like a confused crab - to the left - to the right - and sometimes a wee bit forward. By this time the driver had given up and was rolling a smoke. At last we reached THE HILL, where we were unable to make it to the top, so called a conference and disembarked.

Standing there, sliding gently downhill, we voted 3 to 1 in favour of giving up and going home. At this point the one dissenter displayed a surprising knowledge of Anglo-Saxon, four letter words and showed signs of becoming violent. We enticed him back into the vehicle with helmets and ropes and let him play with these until he calmed down.

On the way out a stop was made and the Porta-Gas lit, to brew a cuppa and defrost the driver. Unfortunately a certain lady had filled the billy with over-ripe spoils of her depredations in the local blackberry population. Tea was brewed in an old gumboot, producing a truly aromatic and emetic beverage. Our homeward journey continued and at our final refreshment stop we met another party of four who had gone in the front way and reached the target area. It was learned that this valiant quartet had displayed great fortitude, (amongst other things), by giving an impromptu impersonation on the chor us line from "OH! Calcutta" in the middle of the Tuglow River.

In the light of the preceding events it is suggested that :-

1. Future trips be to localities in the Nullarbor. In the dry seasons!
2. Mr. Fairweather be nominated for the D.H. Lawrence award for contributions to the English language.
3. Mrs. Fairweather be weighted with billy-cans and cast into a Tuglow blackberry bush.
4. Club funds be drawn upon to provide Mr. Treharne with a large tube of caulking compound for the leaks in his Land Rover.
5. The initials B.M.S.C. be taken to stand for Brass Monkey Swimming Club in honour of the afore-mentioned "Valiant quartet"

P.S. Please note, your raving reporter is allergic to tar and feathers

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OOLITE

BLUE MOUNTAINS SPELEOLOGICAL CLUB
P.O. BOX 37
GLENBROOK, N.S.W. 2773

BLUE MOUNTAINS SPELEOLOGICAL CLUB JOURNAL

O O L I T E

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C O N T E N T S.

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Supplement. Financial Members - July 1971.

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CREDITS.

Journal Editor: Ken Pickering.
Typing: Gwen Fairweather and Ian Bogg.

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EDITORIAL.

"On Trying to do The Right Thing."

In July, B.M.S.C., with M.S.S. and H.C.G. members, planned to hold a simulated cave rescue at Tuglow (T.1). Possible exit routes had been assessed on previous trips and rescue equipment was organised. The project seemed a good one to us because of the increasing number of amateurs who visit the cave ill equipped or just not equipped at all. Also, the cave is of moderate difficulty for the inexperienced.

However, since the passing of the Act No. 78 of 1969 the National Parks and Wildlife (Ammndment) Act, Tuglow Caves are part of the Kanangra - Boyd National Park. Regulations made under the Act especially Regulation 3(N), give the Director or his delegates wide powers to control the activities of bushwalkers, rockclimbers and speleologists.

Although the original National Parks Act was passed in 1967 the Park Service is still considering its general policy regarding access to caves by speleologists, according to advice from the N.S.W. Liason Council Convenor.

Meanwhile it appears that authority to grant permission to enter Kanangra - Boyd lies with the Park Superintendent (who also is supposed to look after the Blue Mountains National Park and Wimburndale Nature Reserve). He has no ranger in Kanangra - Boyd to either help or hinder visitors, but the three clubs did what was considered to be the right thing and asked for permission to hold the simulated rescue. When permission was granted, the conditions imposed (no pitons or lifting gear, only 12 persons etc.) were so unrealistic that the project was abandoned at the last moment, with considerable inconvenience.

Twelve B.M.S.C. members went to Tuglow anyway, properly armed with our permit, and guess what ? There were three other naughty groups there without a permit at all !

While we compliment the Park Superintendent on his zeal for protecting the caves under his control by imposing stringent restrictions, it is obvious that Tuglow has been unprotected too long. He is about five years too late. There is no reason why our project should not have been given realistic treatment and approved without restrictive conditions. Due weight should have been given to the advantages that the Park Service would have gained if it ever had a cave rescue on its unprepared hands.

Of course, the Park Service may one day get around to providing proper staffing and cave rescue facilities. Alternatively, it could invoke Section 49(2) of the Act, which allows it to close a park, or a part (eg. a cave) of a park. There may be some worthy public servants who would recommend just this !

We would like to hope that we would receive more enlightened treatment in future. Or is it preferable that we (a) do not bother to ask permission at all, or (b) ignore the conditions imposed ?

A NOTE ON THE TUGLOW AREA.

by Ken Pickering.

Over the years, Blue Mountains Speleological Club has paid a good deal of attention to the Tuglow Caves and surrounding limestone outcrops. The following note brings together some of the information gathered on this area, and while it is not exhaustive, it should be of interest to those who visit the area. In a later issue of "Oolite" it is hoped to summarise B.M.S.C. explorations and discoveries in the Tuglow, Jaunter and Hollanders River areas.

The history of settlement in the area goes back to soon after the crossing of the Blue Mountains by Blaxland, Wentworth and Lawson. Lawson was the first man to be given, and occupy, land west of the mountains, and he took up the grant of 1000 acres located "just south of the Fish River" (1) in July 1815. In October 1826, according to Ward L. Havard (2) a person called Archibald Hood asked for a grant of 150 acres at the head of the "Fish River" on a station occupied by Major Druitt and known by the native name of "Ginggam". One assumes that this is probably the Gingkin of today, some five miles north west of the caves.

Parish maps show a grant on the Tuglow River was made in 1841 to one of the Whalans, which was called Gingkin.

The locality of Tuglow Hole, Just south of the caves, is said by a certain John Hughes of Gingkin (2) in a letter to the Town and Country Journal of 31st. May, 1884 to have been the place where the trail of the legendary bushranger McEwan was first picked up, prior to his capture at Jenolan, circa 1838 - 1841. In this reference the area is referred to as "Luglow Hole".

According to Trickett (3) the discovery of the caves themselves was made by Messrs H & C Wilcox and was reported to the Department of Mines in 1884. Trickett visited the caves on the 29th. October, 1897, subsequent to a request for their preservation by the Rev. J.W. Harrison of Oberon, made on 13th. February, 1897.

H.&C. Wilcox were selectors in the vicinity of the caves, land of C. Wilcox covering the general area of the sinkholes on Horse-gully Creek. This land borders the Kanangra - Boyd National Park and was cleared as recently as October 1970. (4)

Tricketts report thanks "Messrs Brennan, J.P. Luther and Bourchier, local residents, for assistance given during his inspection of Tuglow Caves and his map marks only two caves.

Bourchiers name appears frequently in Department of Mines reports in relation to his copper mine at Tuglow. The report for 1899 says "Bourchier & Sons have during the year, raised 90 tons of copper ore, valued at £400 ($800), from their mine at Tuglow. The property in under offer to an English syndicate and is expected to change hands before long, The prospects of the mine are said th be uncommonly good."

The mine, which Bourchier had been working desultorily for 10 years, was close to Tuglow River and Charlesfield Creek. It was sold in 1906 and the Tuglow Copper Company of Jaunter was formed in 1907.

Bourchiers' name is memorialised in the feature Bouchiers Ridge (note the change in spelling) shown on the Shooters Hill 2 inch = 1 mile map. Wilcox Ridge is the name given on the same map to the ridge above Tuglow Caves and the Horsegully Sinks.

Myles Dunphy kindled B.M.S.C. interest in the Hollanders River area by indicating on a map by him called Kanangra Tops sketch map, the location of several limestone outcrops. In his covering letter to B.M.S.C. member, John Gallard (5). Myles Dunphy mentions that in 1914, Council Chamber Flat was occupied by a two storied house, probably owned by a cousin of the British statesman Sir Anthony Eden (hence Glen Eden Creek which is in this locality ?) Frederick Eden took up a total of 1183 acres in this area in 1914, while one Frederick Elliott took up 567 acres between 1906 and 1910.

"Budthingeroo", the clearing on the eastern side of Hollanders River was run by one of the Whalan Clan and was known as "Lower Farm" whilst the place on the present Kanangra Road was known as Whalan'S Upper Farm. The Kanangra Road was opened in 1940.

An account of what must have been three of the earliest trips to Tuglow by organised cavers (other than Trickett and Co.) is given in the Sydney Bushwalkers Club Annual of 1935 (6). This tells of trips in 1933 and 1934 and uses the term Window Cave. The party did not get to river level until the third trip, when they were equipped with a "light" 80 feet rope ladder weighing 20 lbs, and packhorses to carry their gear from Denis' Farm.

REFERENCES.

1. Journal of the Royal Aust. Hist. Society, Vol.51, pt. 2 1965.
2. " " " " " " " Vol.2o, pt. 1 1934.
3. Annual Report, Dept. of Mines, 1897, Appendix 31.
4. "Oolite", Journal of the Blue Mts. Speleo Club, Vol 2.No3 1970
5. Myles Dunphy - Personal communication to J.Gallard, 12-1-1967.
6. Quoted in "Compass", Journal of Springwood Bushwalking Club July, 1968.

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BELATED BOOK REVIEW.

"NATURE UNDERGROUND - THE ENDLESS CAVERNS"

A description of caves called The Endless Caverns of New Market, in the Shenandoah Valley of Virginia, U.S.A. which was copyrighted in 1921. The caves were discovered in October 1879, as you can see we are up to date with the news, as ever.

Illistrations with 10 interesting paintings of cave decoration and the book is in the posession of John Gallard. - Editor.

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BIOSPELEOLOGY for BEGINNERS
or Abercrombie Observations.

by Unita Mumby.

Recent trips to Abercrombie afford opportunities to study some intriguing troglobites. The specimens observed, displayed some minor but distinct differences (eg. fingerprints and surnames) to other members of their respective species, so have been given appropiate varietal names.

Speleologist excavatorius var. keck.

Observed burrowing in the dirt outside caves looking for a new entrance, and burrowing inside caves looking for new exits. When excited, emits cries of "DIG DIG DIG". Strongly protective of its territorial rights, it marks its boundaries with deep pits and huge casts of earth, designed to scare the living daylights out of all who believe in giant earthworms.

A remarkable characteristic is the performance of meticulous preening before going to roost at night. It has been found that this animal may be enticed into human haunts for closer study with offerings of mature grape juice and fresh cheese.

Speleologist telecomminicatus var. fairweather.

The male (one of a mated pair) was observed to weave an intricate web of cable with numerous attached handsets, one of which was promptly descended upon by the female. Thereafter the male was to be found at various stations in and around the caves, chirping softly into a mouthpiece, or activating the mating cry of "DING - A - LING" in unoccupied handsets in an effort to attract more females. These summonses were often mistakenly answered by other males, which may well account for the large number of red faces seen in the area. The female has been observed scurrying away with large quantities of the debris thrown up by Speleologists excavatorius, possibly for use in nest building.

Speleologist photogenicus var. richards.

Observed lurking in the vicinity of notable speleothems, whence it preys upon unwary shutter-bugs. An unusual trait is positive photoaxis, even the mere click of a flashbulb being inserted brings it out of hiding to interpose its body somewhere in the middle foreground, twixt the shutter-bug and his objective. Its head is rotated toward the expected source of light, and contortions of the facial muscles produce what is called in lay terms "a cheesey grin" The body is draped across the landscape in a series of aesthetic poses designed to extract the last frame of film from its unfortunate victim. An attempt to lure this creature into giving a free display by using an old shoe box with a pinhole in it, failed, thus demonstrating that it has an intelligence quotient rather higher than that of the average cheesecake.

Speleologist energeticus var. pickering.

Commonly known as the "herald of the dawn", this animal delights in rising before the sun and visiting the nesting sites of its

companions. It proceeds to awaken the more comatose specimens with a vigorous display of deep breathing, hearty jogging, and raucous cries which is guaranteed to bring a flush of nausea to even the most hardened speleologist. The continued existence of this species is dependent upon its maintaining the agility necessary to avoid the missiles launched at it by the disturbed occupants of tents and sleeping bags.

Speleologist elongatus var. treharne.

This accomplished nest builder constructs an elaborate nest in the back of an old Land Rover and, once ensconded therein, is difficult to dislodge until driven out by hunger or the demands of nature. It is, consequently, a frequent recipient of the early morning attentions of Speleologist energeticus. Because of its elongated form, this animal is able to dispense with ladders on certain pitches, may be used as a pry-bar, and is often utilised as a scaling pole by its mate.

Speleologist aromaticus var. corcoran.

A timid animal which, at the first opportunity, darts into its lair, an unsavoury hole known as the "bottom dig". Lurking in the murky depths, it ignites a mixture of aromatic herbs in a briar pipe. The resulting odour attracts unwary females who are compelled to assist in the excavation of vast quantities of mud. It is believed that Speleologist aromaticus shares a symbiotic relationship with the briar pipe as a gradual breakdown of physical and mental functions ensues when the latter is removed, for any length of time, from the cake-hole of the former.

Editors' Note: It has been reliably reported that there were two other sightings on this expedition, tentatively identified as Speleologist sarcasticus and Speleologist rotundus. Confirmation and a full description are awaited eagerly.

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FOR SALE.

Back issues of Oolite are available at ȸ.30 each :-
Volume 1, Nos. 2 and 3 only.
Volume 2, Nos. 1, 2 and 3.
Volume 3, No. 1 only.

B.M.S.C. Transfers both reflective and non reflective types are available at ȸ.30 each.

All available from our rapacious treasurer.

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THE RATIONALE of ENVIROMENTAL PRESERVATION.

by J. A. Sinden.

An abstract of an article which appeared in the "Australian Quarterly", December, 1970, by Ken Pickering.

The author introduces the economists' concept of "opportunity cost" to describe the process by which the community chooses between alternative land uses.

The choice between preservation of an enviroment and its development by agriculture, mining, etc., is strongly influenced by the "opportunity cost" of preservation. This "cost" is the net income which is given up by not undertaking the alternative development. It was easy, the author says, to increase the area of national parks in Australia between 1967 and 1970 by 55 per cent because much of the increase comprised isolated or arid areas with no profitable alternative uses.

However, the opportunity cost of preservation of beaches whose sands contain economic minerals can be high, up to $16,000 per acre, and this is a powerful force in the choice of mining as a land use. Although the benefits from preservation are real, they tend to accrue over long time periods, to be diffused throughout society and to be difficult to measure. For example, it is hard to measure the dollar value of scientific reference areas and the benefits of recreation. However, the fixed supply of natural areas and the probably inevitable increase in population alone, make it inevitable that demand will grow in future. Therefore natural areas will have an increasing social value over time.

The author illustrates the fact that it is easy to express effedtive demand for marketed goods such as motor cars or appliances but very difficult to express demand for services provided by the community, such as conservation of natural resources. Potential ecomomic weaknesses in development plans for certain natural resources such as the Great Barrier Reef are discussed.

Apart from timber, the long term economic prospects of most alternative forms of land use look bleak. Technological advance may well lower the costs of replacing with a substitute, the minerals etc., foregone by preserving habitats, but technological advance cannot restore a species once it is extinct.

Editors' Note. Further papers on the economic aspect of conservation appear in "Proceedings of the 13th. International Conference of Agricultural Economists, Sydney, 1967."

See also "Last of Lands", Australian Conservation Foundation. A note on the evaluation of the recreational potential of State Forests appears in the "Statistical Reporter", United States Bureau of Census, November, 1969.

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B O O K R E V I E W .

"Animals in the Night."

Author: J. H. Prince, Published by Angus and Robertson, 1968, 111pp.

The author was Research Professor at Ohio State University in the U.S.A. The chapters of the book which are of most interest to cavers are those entitled "Ears and Super-Ears for the Dark", "Echo Location by Bats", "Birds that Use Echo Location" and "Echo Location Under Water."

The first of these chapters describesthe function of the ear in simple language, while the second covers ground that is already well travelled in speleo. literature. One interesting fact mentioned is that many insects have a sufficiently similar system of hearing to that of a bat that they can take some measure of evasion. The moths system of response to sound vibrations seems to be as efficient as that of the bat.

"Birds that Use Echo Location" describes the species of swift (Collocalia maxima) that constructs a nast used for the Chinese delicacy, birds nest soup. They use a loud clicking of mixed frequencies in addition to normal bird sounds. Also mentioned is the oilbird of South America (Steatornis caripensis). This also is a nocturnal cave dweller. Both birds have eyes which are highly developed for night vision, in addition to the ability to use echo location.

Ken Pickering.

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MISCELLANEOUS FREE PUBLICATIONS, etc, OF INTEREST TO SPELEOLOGISTS.

Compiled by Ken Pickering.

Department of Lands.	"Descriptive Catalogue of Maps, Photographs and Aerial Photographs," 1967, 14pp. "Index map to Topographic and Planimetric Maps and Basic Cadastral Compilations", as at 30-6-70.
Department of Mines.	"Publications and Maps Issued by the Dept. of Mines, Sydney." Duplicated, 16pp, Various Information Brochures - Example: No.16, What is a Fossil ?
Bureau of Mineral Resources. . (Dept. of National Develop't.	"Maps and Publications for Sale" folder.
Australian Museum.	Various free pamphlets, eg. No.14, "Collecting and Preserving Insects and their Allies."
Bureau of Meteorology. . . .	"The Weather Map and How to Read It." Various monthly Weather Reviews.

In addition to this listing, recent issues of "Australian Natural History", the Australian Museum's informative magazine for non scientists have contained the following articles: "The Little Bent Wing Bat - Evolution in Progress", P.D.Dwyer, June 1968 and "The Use of Echo Location by Bats", J.H.Prince, September, 1970. If you know of any other articles, books, etc., tell the Editor, or better still, write something about them.

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WONDERS of the GREAT DIVIDE.

"Near Cooktown are the stark Black Mountains, piles of granite, covered with a thin film of iron manganese oxides. Called Kalcojagga by the aborigines, the mountains are honeycombed by a maze of unexplored caves and passages that have cost the lives of a number of bushmen.

The first known victim was a carrier named Goyner in 1873. Thirteen years later Constable Ryan stationed at Cooktown tracked a wanted man to the scrub. It's known that he entered one of the caves but was never seen again. More recently a prospector named Renn was added to the list of mysterious disappearances. Another case was that of Harry Owens, a station owner of Oakley Creek. He disappeared near Black Mountain. His partner George Hawkins, searching for Owens, also disappeared. Two native police entered one of the caves, and only one of them came out.

Were the victims of Black Mountain killed by wild animals, or reptiles which lurked in the impenetrable darkness ? Or did they meet miserable deaths after falling into some subterranean chasm ?"

Go to it, you fearless Queensland speleos, but do not forget to take a ball of string, and sword to slay dragons ! Editor.

EXTRACT.
Beatty, W. 1971, Walkabout, Vol. 37, No,1, page 24.

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MISCELLANEOUS NEWS CLIPPINGS.

Sydney Morning Herald, 9-7-71.

Inspection of site proposed for a dump. A magistrate will visit the Barbers Creek area to inspect the site of Southern Portland Cements' proposed 400 acre quarry waste dump.

Australian, 4 & 11-6-71.

Articles by J.G. Mosley on the Colong - Marulan "Cement versus Natural Scenery" issue.

Sydney Morning Herald, 6-7-71.

Page 15 contains a conversion table for Metric and Imperial systems of measurements - Measure your caves in metres !

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SPECIMEN IDENTIFICATION - ABERCROMBIE CAVES.

by M. Gray.+

Material collected by members of B.M.S.C. from caves within the Abercrombie Caves Reserve during 1969.

1. INSECTA.

Coleoptera:

Dermestidae:- Undetermined (1 larva) B.M.S.C. No.5

Diptera:

Phoridae:- Undetermined (1 adult) B.M.S.C. NO. 7

2. ARACHNIDA.

Araneida:

Theridiosmatidae:- Theridiosoma sp. (female) B.M.S.C. No. 7

Theridiidae:- Archaranea sp. (female) B.M.S.C. No. 6.

3. Diplopoda:- Undetermined. B.M.S.C. No. 7

+Assistant Curator, Arachnology, Australian Museum.

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WELCOME BACK.

B.M.S.C. welcomes back into the fold Bob and Robyn Jarvis.

C A V E M A N : M O D E R N S T Y L E.

From: M.D. Australia. Vol.1, No.1, April,1971. Page 97.

The magazine is the first issue in Australia of an American magazine which is a sort of "Popular Mechanics" for doctors. However, it contains two articles of interest to speleologists, "Mysterious Mammal" - the natural history of bats and the article shown in the heading.

"Caveman: Modern Style" concentrates on the physiological aspects of caving and quotes examples of physical injury in caves, including the deaths of Marcel Loubens and Floyd Collins. It accuses European cavers of averaging one death per year. An extract follows -

Kiser Caves in Taxas, a rare example of a cavern filled with CO_2, nearly brought death to three spelunkers who explored it with oxygen masks. The expedition leader noted anoxia symptons (blue fingernails, fading of peripheral vision) and beat a retreat.

The Dangers. Pathogenic risk included histoplasmosis caused by a type of fungus which grows in pigeon, bat and chicken dung, Characterized by enlargement of liver and spleen, fever, anemia. leukopenia, it is sometimes contracted in caves by inhaling dried bat guano. Cave ofthe Guacharos, famed tourist spot in Mexico, was closed when fungus was found there.

Typhoid and paratyphoid hazards exist if water is contaminated (wild caves and streams which feed them are sometimes used for dumping refuse) and a few cases of rabies have been contracted from the bite of vampire bats in Mexican caves. Rabies has apparently not spread to the bat population in the U.S.

The Delusions. Pyschologic factors add to spelunking risks. Spelunkers quite often get lost, panic, suffer claustrophobia, succumb to delusions and hallucinations after long periods "in the hole".

Classic delusion was that of James White who discovered Carlsbad Caverns in New Mexico. White was awed and frightened by "ghostly music" in the cave; learned later that is was caused by bats banging against hollow stalactites.

Scientific Study. One of the biggest and best organised assaults on the cave world from both spelunking and medical points of view was an NSS expedition to Floyd Collins' Crystal Cave in 1954. Sixty-four persons took part, spent seven days and nights exploring a 32-mile underground labyrinth. The party included a zoologist and a research chemist who

Caveman: Modern Style. cont.

supervised collection of 600 soil samples in quest for antibiotics.

The expedition set up two base camps inside the cave, hauled in more than a ton and a half of supplies. To reach Camp One, supply laden explorershad to negotiate a tortuous 1300-foot crawlway, squeeze through a 14-inch "Key-hole" scale slippery cliffs, cross a 150-foot "bottomless pit." A spelunker described this experience as "mountaineering in the dark".

Medical team headed by Dr. Halvard Wanger (Shepherdstown,W. Va.) included three interns and two nurses; it proved to be somewhat overstaffed. When not occupied with professional duties, interns were drafted for kitchen work, supply hauling, or to fight forest fires in a nearby national park.

Psychologic screening for expedition members included the Manifest Anxiety Test developed by Dr. M.J. Freeman (North Hollywood, Cal.). Physical examination stressed vital capacity test as index of cardopulmonary efficiency, petechiometer test for capillary fragility, Harvard step test to demonstrate recuperative powers of the heart. Immunization of all participants was required for tetanus, recommended for typhoid and paratyphoid.

Going down. Fifty spelunkers, including five women, roamed below for periods ranging from 8 to 167 hours. Average continuous time underground was 77 hours. Among those who went down was a newsman who suffered from histoplasmosis. He wore a rubber respirator mask, joined the expedition against his physician's advice.

Spelunkers subsisted on small bulk, high-calorie foods; mostly candy, dried fruits, concentrated Army rations, supplemented by a weel-known Vitamin-mineral capsule,. They used fresh apples for dental hygiene, a hexochlorophene soap to destroy bacteria, Halazone tablets to decontaminate cave water.

Cave temperature was a fairly constant 54°F., humidity a fairly constant 97 percent. Spelunkers perspired freely, were further soaked by underground streams, remaining wet until they came up to rest. Average night's sleep was 5.9 hours.

Worst crisis occurred when four men, two women bogged down in the tight crawlway for 14 hours. They were overloaded, had too little rest, feared being lost, suffered mild hysteria from false reports that Camp One was "starving" owing to fire fighting interruptions above. One of the women developed an asthmatic attack from fatigue, aggravated by cold and damp clothing.

Caveman: Modern Style. cont..

Other casualties, all mild, included 30 victims of fatigue, six each of headacre, insomnia and coryza, five each of cough and dyspnea. A followup questionnaire revealed that 13 felt the expedition improved their health (they claimed relief from colds and sinus conditions), four felt worse (fatigue), the others reported no change whatsoever.

Most frequently used medication included asprins, tincture of benzoin, mild sedatives. Available but not needed were plaster of paris bandages, a face mask apparatus for applying artificial respiration without moving the body, a dextran plasma volume expander for emergency treatment of shock.

"Wide Open". Four spelunkers said they found the adventure exhilarating, five reported irritability and frustration, the others detected no change in mood. The expedition produced one report of a voice calling "wait for me" in a pasage known to be empty. Dr. Wanger ascribed it to fatigue, and possibly some trick acoustic effect in little known, interconnecting system of chambers. Said he: "Spelunkers don't have to be crazy, but it helps."

At week's end, after 4646 spelunking hours, the expedition crawled out with more questions raised than answered. Crystal Cave was still unconquered; no one knew how deep it went, how far it extended, what secrets it might still conceal. Best guess: it may be world's largest cavern with over 60 miles of passages.

Dr. Wanger concluded: "Little research has been done on groups underground, the effect of prolonged humidity upon individuals in caves, and other phases of the physiology of speleologists. It presents a wide-open field to any qualified researcher". Wide open is, of course, a manner of speaking.

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B. M. S. C. T R I P R E P O R T S.

TUGLOW. 13th February, 1971.

Present. B. Richards, G. Wright and R. Thomas (L).

Aim: General Inspection.

At the level of the entrance to Diamond Mine, the river could be heard thundering below us due to recent heavy rain. If you travel slowly and really look at the formations they are pretty good.

After poking around the first cavern the party climbed up, over and through the narrow slit between the formations and dropped into the second chamber. I took the passage to the left and followed it for 20ft to its end, but on close inspection it is found to be an elbow with formations barring the way. Around the corner it opens out and goes on and the river was quite plainly heard. If we chip the narrow corner off the inside of the elbow it will be possible to go on.

Barry, Stan and Allan above digging at the entrance to T5 seemed to be right above us as they bashed away with the sledge hammer. It was considered too dangerous to remain there so we retreated fast and informed them of our discovery.

On the way out the second party consisting of Allan, Mike and Unita were just arriving at the ladder but were forced to turn back owing to light failure.

Back at the surface shovels were gathered and a party consisting of Allan F., Mike, Unita, Barry, Gordon and myself set out for a dig in Moonmilk. Once inside the lowest section of the floor against the wall facing the mountain was selected and digging commenced. The digging was easy and interesting as many bones were found and the wall started to slowly curl back under.

As the party moved back to the suface I climbed down into a small chamber behind our dig and some 3ft above where a narrow crevice was noticed, and by shining a light I could see down about 20ft to what appears to be a chamber. From this slit cool air was quite noticeable.

This makes the Project very promising and by moving the dig over in line with this slit results could be gained sooner.

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B. M. S. C. T R I P R E P O R T S.

WEE JASPER. 24th April, 1971.

Members Present: Lionel Baker (L), D. Ward, A. Sivertsen and S. Thomas.

Aim: Surveying new extension. Dip Cave.

The cave was entered at 10am. We met a group of Boy Scouts milling around the entrance and passed on to the ladder pitch, where Dave and Adrian made the free climb and belayed the ladder.

We moved onto our objective, where mapping took place. As the mapping was carried out, I noticed one hole going down on the right hand side, which should be looked at, at a later date.

While in this new chamber, we got talking to some bods who told us they were from the Bushwalking Club called the "Ramblers".

A dig started when Stan was on a previous, just near the bottom of the ladder pitch, was pushed on this trip and we made a break-through, only to find we were in the known chamber at the bottom of the rope.

On finishing the mapping, we checked our equipment, and headed out. After descending the 30ft pitch, we rolled the ropes and ladders up, when over the top of the Rat Hole appeared a few heads. These people must have used our equipment to enter the cave, they said they could get down without our ladder, although they seemed lost.

We headed back to camp having been underground 8hrs.

Note: Wee Jasper is getting more like Timor, with bods shooting all over the place.

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B. M. S. C. T R I P R E P O R T S.

JENOLAN. 1st May, 1971.

Members Present. Ken Keck (L), Ian Bogg, Barry McWilliams, Geoff. Deane, Phil O'Connell, Lionel Baker, Eric and Trevor Ockenden, David Schwarze, and Phil Riley.

Aim: To explore the Ox-bow Cave and check out the possibility of extension.

The party assembled at the Guides office around 8 am. and after reporting in to the Chief Guide we drove to the Mammoth flat, vehicles were left and food and equipment taken to the entrance of the Ox-bow Cave. (J 16)

We entered the cave about 9.30 am and several apparent prospects for digs were investigated in the inner chamber of the cave. It has obviously been choked with flood debris and silt for many years but the low entrance tunnel opens into a roomy chamber with a sloping mud floor upwards to the roof at the far end, and evidence of many drainage holes particularly on the right hand side of this chamber,

Eric and Trevor Ockenden led the way down another tunnel which finished with voice and light connection to the section previously entered by Geoff, but proved impassable.

Geoff Deane had descended into one likely entrance, and after some heavy work removed several rocks and led a group down a tight vertical squeeze into a lower passage which terminated in a solution tube too tight to penetrate.

Ian Bogg and Phil O'Connell worked on an apparent sink in the silt floor of the main cave, and again, after some considerable effort and heavy lifting of rocks, opened what seems to be a way to a lower section, but the whole of this dig will need very careful work and possibly some shoring before entry can be made to examine it further.

All members of the party assisted well in work done in the Ox-bow and we left the cave at 12.30pm for Lunch. The party left Jenolan after clearing with the Chief Guide about 5.30pm.

Conclusions : We noted some strong air currents which certainly warrant some further study. These currents were intermittent but seemed to be far too strong to be accounted for by the

cont.

B. M. S. C. T R I P R E P O R T S,

Jenolan. cont.

comparatively small volume of air in the cave which was evident to us.

There seems little doubt that this cave does extend beyond the silt and fill, and further work both in excavation and meteorological research is recommended.

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ABERCROMBIE CAVES. 15/16th May, 1971.

The objective of this trip was to investigate the possibility of further extension or another entrance to the Grove Cave, which would assist in making this cave more practicable as a Tourist Cave.

Unfortunately due to the non-arrival of Barry McWilliams who was to be trip leader on this occasion, we did not enter the cave until 11.30am on the Saturday as we waited for the rest of B.M.S.C. to arrive. Those present were Allan and Gwen Fairweather, Mike Treharne, Unita Mumby, Ken Keck, Trevor Ockenden and David Schwarze.

As numbers were limited it was decided to first examine the dig at the top of the flowstone. This was carried out with excellent co-operation from all members of the party, and the early section of the tunnel deepened considerably in an endeavour to follow down the solid walls of the passage to reach bedrock.

We were unsuccessful in achieving this, but the fill in the whole of this section proved to be very loose, consisting largely of fractured false floors which seem to have collapsed, possibly with the weight of mud washed into this section in years past.

The far end of the tunnel was examined, but it was decided that this was being dug into a very loose conglomerate held by poorly packed mud, and that any progress would be very unsafe as well as being very unlikely to produce results as no evidence of Cave wall, floor of roof could be found.

B. M. S. C. T R I P R E P O R T S.

Abercrombie Caves Cont,

Work proceeded until 4.30pm when we left the cave for an early dinner and chat with George Knox who was a very welcome visitor to our campsite.

We outlined to him what work had been done, and told him of our plans to investigate the cleft into which the Grove cave could possibly extend. This he approved and gave permission for us to make a tourist trip through the Arch Cave during the evening which we thoroughly enjoyed.

Our efforts in the Cleft on Sunday were hampered by lack of gear, as we only had about 100ft of rope which Mike had brought "in case it was needed" (God bless him). Allan, Trevor and David descended and investigated the cleft as far as possible although ladders and more rope would have helped here.

They reported that there is a rock choke which could possibly be a blocked cave entrance, and which is located on the side of the cleft nearest to the Grove Cave. Further descent by Trevor gave us the report that the fallen rocks in the cleft have left two floor levels with possible access under the lower one but we were hampered in this by lack of gear.

The Grove Cave was revisted before leaving the area, and in final discussion with Mr. Knox we suggested that further work is warranted on this project, and he has agreed to a further visit when we hope to have R.D.F. and some tapes and compasses available to plot out relative positions of the cave and the rock blockage in the Cleft. We cleared the area about 3 pm Sunday.

A feature of this trip was the excellent team work of all members of the party and everyone was enthusiastic about the success and objectivity of the trip.

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B. M. S. C. T R I P R E P O R T S.

TUGLOW T.1. 27th MAY, 1971.

Aim: To look at water flow in extreme upper Level. To note change if any, since Horse Gully Creek has been cleared.

Members Present. Dave Ward (L), Allan Gill, Lionel Baker, Rick & Trevor Ockenden, Geoff Deane and Phil Riley.

Party entered cave at 10.30 am and a rather slow trip was made to the Book Chamber. This being due to a first trip by some of the members into Tuglow.

Everybody caved very well and the first timers in Tuglow were shown around the rimstone pool and skull etc. on the way in. Two frogs were seen by the party in the big pool.

Approximately 3 dozen bats were seen in the high ceiling area above the wide ledge after the first traverse.

In the Book Chamber we all signed the book which has turned up again.

From there we went to the left hand extension where most of the party spent 45 minutes having a general look-see and they returned covered, naturally, with good old Tuglow goo & mud.

When we returned to the main passage all the party followed it up to the deep water, where the three of us continued right to the end while the others stayed dry.

On this trip we saw bats all the way through the cave, more than I've seen on previous trips over the years.

We had an uneventful trip out of Tuglow and after a cuppa we decided to call it a day and returned home.

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B. M. S. C. T R I P R E P O R T S.

TWO TRIPS TO LITTLE WOMBEYAN CREEK.

Ken Pickering (L) & Ian Bogg - 5th & 6th JUNE, 1971.

Ken Pickering (L), Ian Bogg & Geoff. Deane.
2nd and 3rd JULY, 1971.

The aim of these trips was to check on the sink holes reported in the Geological Survey reports of Nicholson and Bembrick. According to these the sink holes suggest the existance of large caves down to the level of Little Wombeyan Creek.

With admirable foresight the President equipped himself with a Land Rover, otherwise the fog and drizzle on Saturday might have made the fire trails a bit too slippery for a certain grey Falcon.

The route taken via Limeburners Fire Trail passed Cobra Mountain and the Wombat Pinch. Later, we found better routes via the Fatigue Fire Trail on the Taralga Road.

Saturday morning was spent at No.1 deposit. On the eastern side of the creek there are at least three caves high up on the hill. Because of lack of equipment, only one was entered. It went for approx. 50 ft before earth fill was met. The creek effluxes at the down stream limit of the limestone from an interesting depression which is probably a water filled cave. On the western side of the creek there are signs of exploratory drilling of the limestone at the bottom of a short access track, and several cave prospects.

On Sunday, No.2 deposit was located. This seemed more promising, being at a greater elevation and having several quite large sink holes in a dry creek bed. The biggest sink with large trees growing out of it, has a classic cave entrance but the cavern inside is filled with earth after the first chamber which is approx. 25ft. radius by 8ft. high. Close by, there is a related sink with several interconnected entrance shafts, but again, earth fill was met at about 12ft. The most interesting sink is located in the very bed of dry west-flowing creek. It has about seven entrances, all interconnected, but only 20ft. depth

B. M. S. C. T R I P R E P O R T S.

Little Wombeyan Creek. cont.

A short distance up the bank is another cave with an impressive entrance chamber 25 x 25 x 12. A stream passage was pushed for 35 ft. or so in the earth and rock floor. Other sinks with earth filled shafts occur in the creek bed. No.2 deposit has been pegged as M.L. 2.

The net increase in knowledge gained on the second trip was slight, except in knowledge of how cold it can get. About 20 separate holes were located, all ending in confounded earth fill at about 15ft. At the No.1 deposit, a 45 ft. pot was entered.

REFERENCES: Geological Survey Report 1970/63 D.A. Nicholson.
1970/141 C.S. Bembrick.
1963/9 D.W. Wynn.

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B. M. S. C. T R I P RE P O R T S.

ABERCROMBIE CAVES. 19th/20th June, 1971.

Objective- to locate another entrance to the Grove Cave (A9) at the request of the Superintendent Mr. George Knox.

Members present were - Ken Pickering, Terry Corcoran, Barry Richard, Allan and Gwen Fairweather, Mike Treharne, Unita Mumby and from H.C.G. (Canberra Branch), Roy Grinham, Bill, Bess and Brian Patrick. Trip Leader was Ken Keck.

The groups arrived on Friday night and early Saturday morning, and after presenting our permit to George Knox and discussing our objectives the cave was entered at 10.15 am.

A Radio Direction Finding transmitter was placed in the large chamber at the far end of the cave, manned by two operators. A Field Telephon e was also installed at this point and a line run to the cave entrance where another operator was stationed. From the entrance another field telephone was set up and connected to a mobile telephone unit which accompanied the party operating the R.D.F. receiving equipment on the surface. Four operators were used in this group, two on R.D.F. and two on telephone cable laying and communications.

By 12.45 pm a point on the hillside above the first suspension bridge but upstream towards the Arch was located as giving the strongest signals from the underground transmitter, and hammering on the surface rock at that point was clearly heard by the party in the cave.

The party inside the cave then moved the transmitter up a flowstone at the end of the cave and into a mud tunnel which had been dug some months earlier and which extended approximately fifteen feet past the end of the cave track but at a higher level.

Another point above the transmitter was fixed by R.D.F. further along the hillside in a heap of loose rocks and earth and digging was recommenced here. When work finished on Saturday evening signs of the digging had already been noted in the cave.

cont.

B. M. S. C. T. R. I. P. R. E. P. O. R. T. S.

Abercrombie Caves 19/20-6-71.

Work was recommenced at 9.30am Sunday and at 10.40 am the crow bar penetrated the roof of the mud tunnel about three feet below the surface. Enlarging work commenced and at 11.20am the first member of the party stationed in the cave emerged to the surface through the newly dug exit.

Before the cave was opened humidity and temperature readings were taken in the end chamber, and these were repeated after the opening was cleared. A strong wind draught was noticed coming from the cave, and readings were as follows:-

	Wet Bulb. (Deg.F)	Dry Bulb. (Deg.F.)	Relative Humidity.
Surface Conditions	43	47	72%
Cave before opening	53	49.5	81.5%
Cave after opening	50.5	52	94%

The tunnel now leading to the new exit has an earth floor and it seems that an entrance could be dug to permit tourist access with a minimum of cost or necessity to drill out rock. The roof of the tunnel is quite safe and stable and track access back to the present foot track could be easily provided.

While work was proceeding at the new entrance some members were examining and working on a dig in another part of the cave at a level some twenty feet below the present cave track, and reports of progress indicate that further development of the cave may be found from that direction.

A further possibility of extension to the Grove Cave also became evident as we cleared the tunnel, and preliminary probes suggest that further work could be profitable in extending the present known length of the cave.

cont...

B. M. S. C. T R I P R E P O R T S.

Abercrombie Caves 19/20-6-71.

Tribute must be paid to George Knox for his active encouragement and willing assistance in the loan of digging equipment which helped very considerably. George visited the digging site on two occasions, and inspected the final breakthrough. He also expressed his satisfaction at the successful completion of the project.

Allan Fairweather was untiring in his very able assistance with the field telephone equipment without which the job would have been almost impossible, and Gwen shines as the new B.M.S.C. "friendly telephone operator", aided ably by Nita.

Thanks must also be expressed to H.C.G., and in particular to Bill Patrick for the loan of their R.D.F. gear and Bill's very helpful assistance in operating it, particularly from the receiving end,

It was good to see the untiring teamwork by all members of this party, and it was only due to the enthusiastic support of everyone that the objective was achieved so quickly and successfully. Some good inter-club work here.

Mention must be made of Mike's dig which he and three others have commenced at the ladder drop near the first ladder in the cave. Mike is most encouraged by results so far, but time did not permit full attention being given to it on this weekend. It should be noted for future development, as should also another extension at the far end of the Cave,

It is strongly recommended that further work be done in the Grove cave, and we have been asked by George Knox to check for a connection between Koh-i-nor cave and Bushrangers Cave (another R.D.F. project). Due to the close teamwork and enthusiasm of the twelve cavers present on this trip a date has been suggested for the first weekend in August on which at least ten of those members hawe indicated their desire and willingness to attend. It is therefore recommended that a permit be sought for (a) investigation of a possible connection between Koh-i-nor/Bushrangers Caves and (b) further work on extension of the Grove Cave, for that date.

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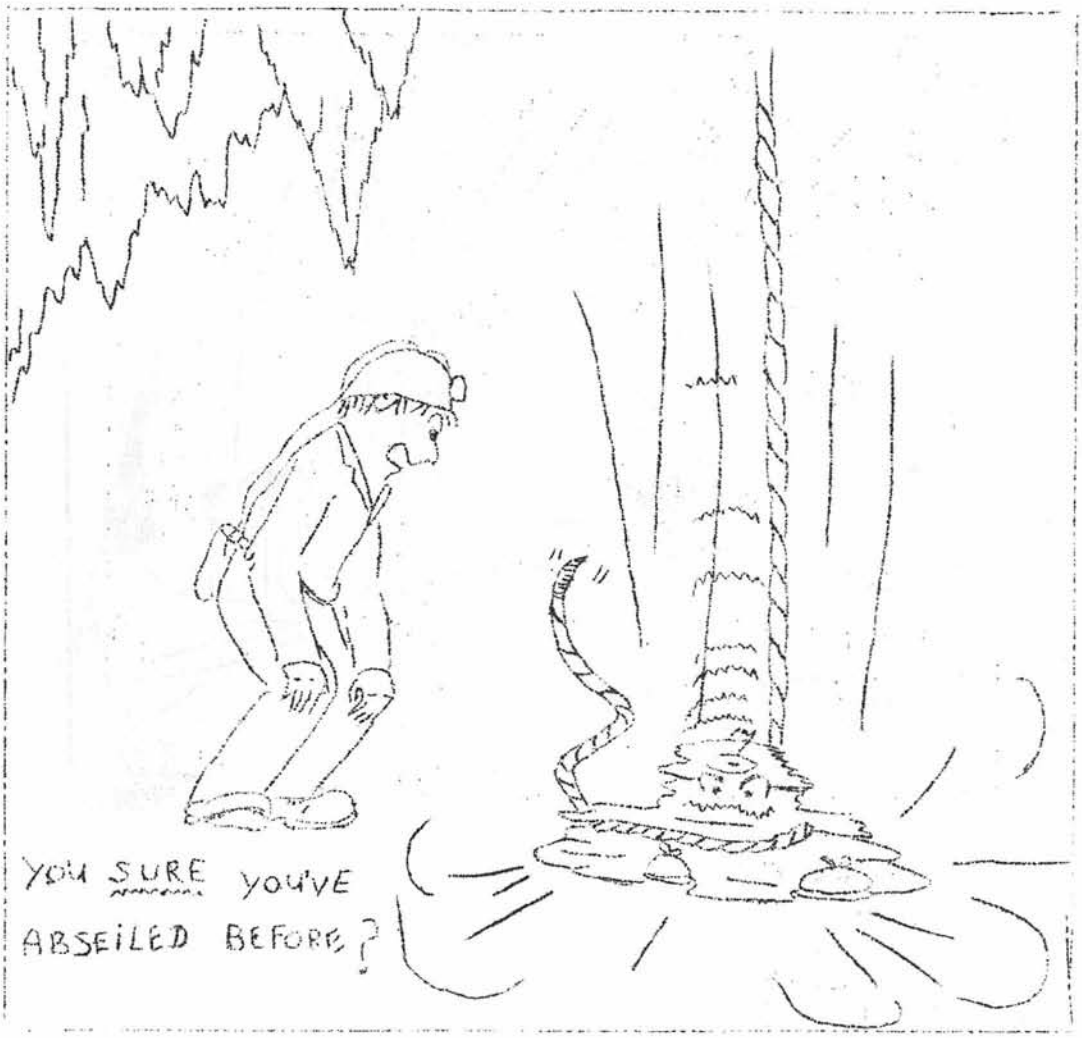
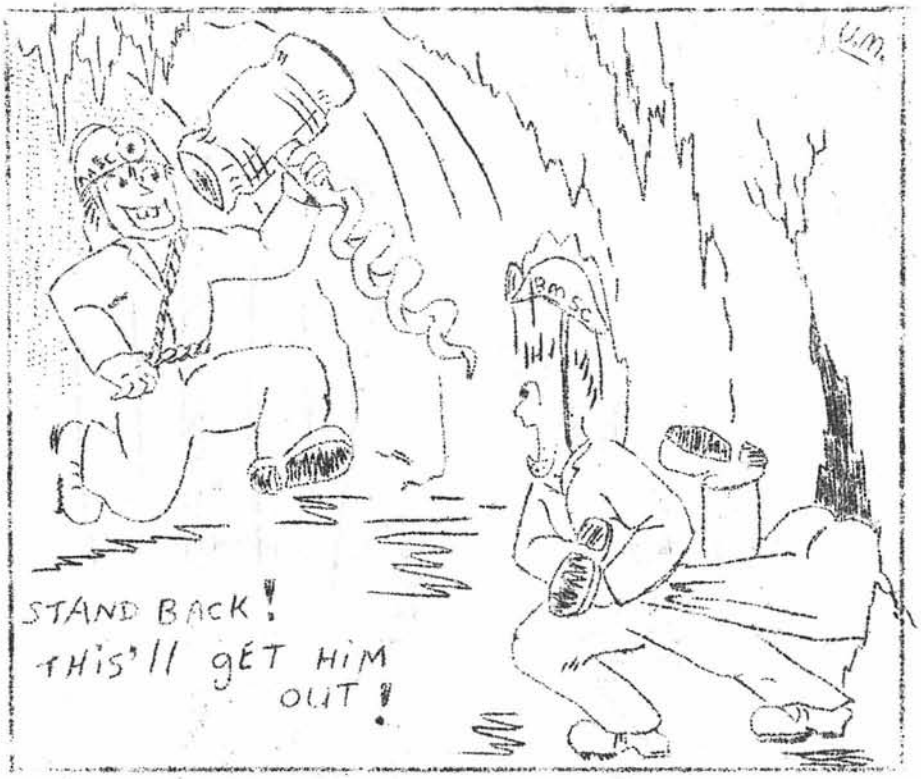

YOU SURE YOU'VE ABSEILED BEFORE?


ABZ OF LOVE
JUST MARRIED
OH YEAH?! WELL THERE'S NOTHING IN HERE ABOUT AN EXPERIENCED TRIP LEADER!


STAND BACK!
THIS'll GET HIM OUT!

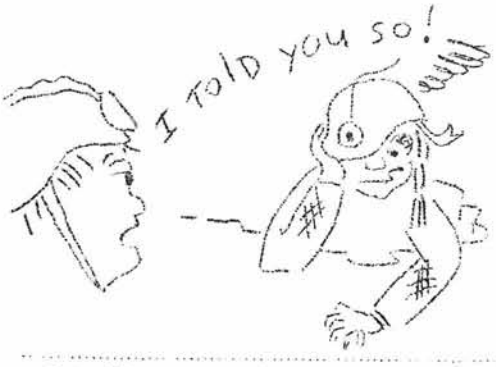

OUT!
PRACTICE YOUR SUMP-DIVES ELSEWHERE.

BOGG'S BIRDS AT TUGLOW

PRIOR TO OUR FIRST DESCENT, IAN ALLAYED OUR FEARS OF THE UNKNOWN...

HIS GENTLE ASSISTANCE —— TIMELY ADVICE

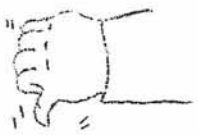
AND BRILLIANT REPARTEE WERE MUCH APPRECIATED. JEFF DEANE'S OFFER OF HELP ON A TRICKY PITCH...



WAS GRATEFULLY ACCEPTED.

EVER CHIVALROUS, IAN TREATED US TO DINNER BY CANDLE LIGHT....

BUT WE SURVIVED.... FINALLY, WE WERE GIVEN AN HONEST APPRAISAL OF OUR CAVEMANSHIP. — MANY THANKS TO IAN FOR A REMARKABLE TRIP — WHICH WILL BE REMEMBERED FOR AS LONG AS THE SCARS REMAIN. Gwen & Rita.



B.M.S.C. FINANCIAL MEMBERS. - JULY, 1971.

				PHONE HOME	PHONE WORK.
BOGG.	I.	29 SCOTT ST. SPRINGWOOD.	2777	51.2001	Windsor 045.71366
BAKER.	L.	BOX 44. P.O. ENGADINE.	2233	-	594.179
CORCORAN.	T.	13 MOUNT ST. GLENBROOK.	2773	-	2331X315
DALZELL.	J.	F/28. 55 DARLING PT.RD. EDGECLIFF.	2027	321.846	320.111
DLANE.	G.	115 GT.WESTERN HWAY. VALLEY HEIGHTS.	2777	51.1129	Ren2.3789
FAIRWEATHER.	A.	23 BYRNE ST. LAPSTONE	2773	-	635.0888
FAIRWEATHER.Mrs	G.	23 BYRNE ST. LAPSTONE.	2773	-	+(2.0577)
GALLARD.	J.	22 GREGORY TERRACE. LAPSTONE	2773	39.2382	39.2964
GILL.	A.	F/2 LOT 6 CARRAMAR AVE.CARRAMAR	2163	-	77.9620
HYNES.	K.	25 ELDRIDGE RD. BANKSTOWN.	2200	-	77.9620
KECA.	K.	114 DURDETT ST. WAHROONGA.	2076	48.1037	439.4322
McWILLIAMS	B.	BOX 73. P.O. ENGADINE	2233	-	-
MUBBY. Miss	U.	c/- 21 BOBADAH ST. KINGSGROVE	2208	-	20234 X2478
NELSON. Dr.	G	BOX 147. P.O. NARRABRI	2390	N/BRI 1440	
OCKENDEN.	E.	29 SPURWOOD RD. WAURIMOO.	2775	-	-
OCKENDEN.	T.	156 BURNS RD. SPRINGWOOD.	2777	-	-
O'CONNELL	P.	5 BELLEREIVE AVE. BLAXLAND	2774	39.2816	-
PICKERING.	K.	11 BROOKLANDS RD. GLENBROOK	2773	39.1346	2024X451
RICHARD.	B.	32 PANORAMA CR. BLAXLAND.	2774	39.2015	623.0121 X369
RILEY.	P.	336 MACQUARIE RD. SPRINGWOOD	2777	51.1508	-
SIVERTSEN.	A.	5 UPPER CLIFF RD. NORTHWOOD.	2066	425.917	20579X443
SCHWARZ.	D.	AVOCA ST. GLENBROOK.	2773	39.1784	-
THOMAS	L.	43 RODGERS ST. KINGSWOOD	2750	2.5761	-
THOMAS	R.	22 OLIVET ST. GLENBROOK	2773	39.1595	-
THOMAS.	S.	24 COOK AVE. DACEYVILLE	2032	-	+(661.0616)

B.M.S.C. FINANCIAL MEMBERS. - JULY, 1971. continued.

				PHONE. HOME	WORK.
THOMAS	Mrs.A.	24 COOK AVE, DACEYVILLE	2032	-	-
TRAHERNE	M.	21 BOBADAH ST.KINGSGROVE.	2208	504.736	
WARD	b.	91 FIRST ST. SAWTELL	2452		
WARD	Mrs.C	91 FIRST ST, SAWTELL.	2452		
WRIGHT	G.	11 WATERS RD.GLENBROOK	2773	39.1971	
JARVIS.	R.	LOT 105 MATTHEW PDE. BLAXLAND..	2774		
JARVIS	Mrs.R.	LOT 105 MATTHEW PDE. BLAXLAND	2774		

+ FOR USE IN EMERGENCY ONLY.

SUPPLIMENT TO OOLITE, VOL.3, NO. 2, AUGUST, 1971.

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OOLITE

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C O N T E N T S.

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Editor. Ken Pickering.

Typing. Gwen Fairweather.

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Oolite Vol.3 No.3. Jan,1972.

SPELEOTHEMS IN CAVES OF THE BLUE MOUNTAINS NATIONAL PARK.

Ken Pickering.

B.M.S.C. is located in the midst of a 275,000acre National Park comprising of Hawkesbury Sandstone country. Most of the caves in this area are only shelter caves, but some are of interest because of the aboriginal "red hand" stencils or remains of stone implements they contain. These sandstone shelter caves have yielded in addition, interesting examples of three types of speleothem development.

The most spectacular find was shown to the writer by Park Rangers John Gallard and John Kuhr in April 1970. It is a cave high on the banks of the Nepean River which contains stalactites, stalagmites and flowstone composed of limonite, a hydrated iron oxide with the formula $2\ Fe_2O_3.3\ H_2O$.

According to Dana (1), limonite is always of secondary origin, being due to the alteration of other ores or minerals. It is widespread in occurrence and may be deposited at low pressures and temperatures from all solutions that contain iron. The evaporation of carbonic acid from water containing iron in solution is one cause of the separation of the iron oxide. Another cause is the so called "iron bacteria" which absorb iron from the water and later deposit it as ferric hydroxide. Limonite is a bog iron ore and occupies marshy places into which the iron has been carried by streams. It is also found in association with goethite in deposits in iron bearing limestones, (2), (3).

At the particular location being described, the formations occur in a long, low and shallow cave at the base of a cliff about 60 feet high. Over this cliff, in wet weather only, flows a small creek which drains an area of only a few acres. However, there is generally some dampness in the cave due to seepage. Maximum dimensions of the cave are, length 47ft, height 8ft and depth 8ft 6 ins. The decoration is fairly well spread over this whole area. The red, brown and black of the iron oxide contrast strongly with the vivid green of the mosses and ferns that fringe the cave and the whole makes a beautiful sight. There are many groups of stalactites of about 8 inches in length. Underneath these is generally found a broad flat stalagmite boss. However, in some cases sizeable stalagmites have grown. One 12 inch stalactite has a 7 inch stalagmite growing underneath it and in another instance a column 43 inches long has formed. Stalagmites, where they have attained any height exhibit a cylindrical shape, rather than the tapered shape common with calcite ones. This may be due to the fact that limonite, being formed by evaporation, occurs in layers. Stalactites are tapered, but not very finely tapered. Amongst the limonite stalactites there is one definite straw stalactite $2\frac{3}{8}$ inches long which is astride a hairline crack in the cave roof. When observed, it was dripping water at a much faster rate that the others,

Speleothems etc., cont.

more than one drop per second. Going on the evidence of the Royal National Park cave formations, (4) it is probably calcite.

Since this discovery, other deposits of limonite have come to notice, although none are spectacular. A large deposit occurs on Fitzgerald's Creek near Mt. Riverview. This deposit is about 300 to 400 feet long and from 18 to 24 inches in thickness. Lumps of limonite up to 4 feet long have fallen from the cliff face and have turned rock hard. Other deposits occur in the Glow worm Cave and Edith Falls, Hazelbrook, and elsewhere (5). C.D. Collier, in a personal communication, has stated that he has seen quite a few stalactites of iron oxides in the Mendip area, although compared with carbonate ones, they are rare.

A significant deposit of limonite, or bog iron ore, occurs at the chalybbate spring deposits at Fitzroy near Mittagong. A total of 3242 tons of pig iron was produced from this deposit in 1876-7(6)A lease for iron ore, apparently bog iron ore was taken out in Colong swamp, but not developed. Jacquet, (7) writing in 1901, said that the Fitzroy deposit could have taken 30,000 years to accumulate, assuming a contant volume of spring water and iron content.

The second group of speleothems , which occur quite commonly, but which are insignificant to the casual observer, are composed of "epigenetic common opal", SiO_2. According to J.F. Lovering (8), these speleothems are formed by evaporation of the normal ground waters of Hawkesbury sandstones. They occur as simple and botryoidal incrustations and simple and Coralloidal stalactite structures. Lovering found deposits of common opal on 8 cm. stalactites of limonite at Galna Creek near Mt.Colah, but no such close association of the two minerals has been found on the Blue Mountains. Small deposits of limonite and common opal have been noticed fairly close together in the natural tunnel at Hilltop.

The common opal formations were first found by B.M.S.C. members in the cliffs of Glenbrook Gorge, in a cave formed along a joint. The stalactites reach a maximum length of about 3 cm and the flowstone is only about 1 mm thick. Stalagmites have not been found. Sometimes the common opal is white and clean, in other cases it is a sooty black.

The third type of speleothem was found in a cave near the historic Lennox Bridge, the first stone arch bridge built on mainland Australia. Ron Thomas had noticed this very low, but quite deep, sandy floored cave some years ago. It is only from 6 to 18 inched high over its whole area, but covers perhaps 3000 square feet. Crawling in this claustrophobic chamber in August 1971, it was noticed that some of the depressions in the sand contained quite large semi--transparent crystals. When looking across undisturbed areas of the floor with light shining at a low angle, the sand seemed to be covered with a mass of fine, hair-like, shining crystals. A sample of the crystals taken from the cave proved to be

Speleothems etc. Cont.

hygroscopic, and although not analysed, the crystals are thought to be composed of common salt, Na Cl. The basis for the assumption is an historical account quoted by Cambage (9), of the discovery of common salt at the junction of the Nepean and Bargo Rivers in 1798. Analysis of these deposits by the Department of Mines in 1918 showed they contained 48.25% Na Cl and 44.6% of sand. Cambage says:

"The rock formation is Hawkesbury Sandstone (Triassic) and being regarded as of estuarine origin it is not considered remarkable that it should contain a small percentage of salt. During and after wet seasons the salt is leached out of the rocks in solution, and when it reaches the exposed face of the cliffs is soon washed away. But in small caves and sheltered positions under the cliffs the moisture is protected on reaching the face, and here the salt is precipitated as the moisture is dried up, and occurs as an efflorescence film on the sides and floor of the caves, and in some cases forms a thin selvage protruding perhaps half an inch.

These salt caverns, many of which were noticed along the cliffs of both rivers, would be valuable as salt licks if they were accessible to stock, but the solid rock itself apparently contains so small a percentage of salt, that it would be of no value as rock salt. The rock in these caverns is whiter that that in exposed situations, and no doubt this caused the explorers to think that most of the mass within the caves was salt. Hacking's report on the deposit does not appear to have been published, but Governor Hunter sent a sample of salt, presumably from this locality, to Sir Joseph Banks, as did Governor King also, at a later date."

In 1889, Professor T.W. Edgeworth David, F.R.S., reported on and described, an exactly similar occurrence of salt at Aellalong, near Maitland, and verbal reports of small occurrences have been made by others."

C.D. Ollier (10) describes the formation of salt crystals in relation to the weathering of rocks and quotes other authors who attribute the scaling and cave formation at Ayer's Rock to salt weathering.

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Speleothems etc., cont.

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AMAZON ALTARS IN CAVES.

RIO DE JANEIRO.- A team of anthropologists believe they may have found the home of a tribe of Amazons - tall warrior women - the newspaper "O Globo" reports.

It said that three caves in the territory of Rondonia, bordering on Bolivia and in the basin of the Amazon River, bore signs of having sheltered members of the tribe.

In the caves they found sacrificial altars and drawings of the symbols of the tribe's chieftainess and the sun.

The sacrificial altars were believed to be for male children born to the tribe.

Sydney Morning Herald.
13th October, 1971.

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M.S.S. DINNER. 13th DECEMBER, 1971.

Present from B.M.S.C. were Allan and Gwen Fairweather, Unita Mumby and Mike Treharne. We also attended the Meeting which followed and were made feel "quite-at-home".

The proceedings were very interesting, particularly as they enabled us to learn of the current projects being undertaken by M.S.S..

The supper which followed gave us the apportunity to renew old friendships with M.S.S. members we have caved with in the past and to meet people we have not had the opportunity to cave with as yet,

From all of us, thanks for an enjoyable night.

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Just Published. "The Underground Rivers of North-Western Puerto Rico" by G.J. Nelson. Published by B.M.S.C., 16 pages, 3 maps.

An account of Graham's explorations in Puerto Rico with La Gruta Trogloditas de Puerto Rico - a grotto of N.S.S. of U.S.A. Some of this material has been published in Oolite in the form of trip reports from Graham.

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EXPLORERS FIND HOLE.

Daily Telegraph 6.1.72.

Nelson. (New Zealand) Wed. - New Zealand and Australian explorers have discovered a 1160-foot-deep pot hole.

The hole is more than halfway up Mount Arthur in the rugged Southern Alps and authorities believe if to be the second deepest in the Southern Hemisphere.

The joint exploration party of 21, including five girls, who spent a fortnight in the dank, cold marble caverns returned to the surface of the 5834-foot mountain to-day.

New Zealand how has the three deepest pot holes in the Southern Hemisphere, including the Hole on Takaka Hill in the South Island's Nelson 1160-foot-deep pot hole.

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EDITORIAL [illegible]

One of the more obscure publications your editor has scanned lately, in the hope of turning up items of speleological interest, is the "Asian Pacific Quarterly", published in Seoul, Korea of all places. And would you believe it turned out to be a veritable goldmine?

Volume 2, No.2, Autumn 1970, has an article on "Aboriginal Art in the Kimberley" extracted from "National Parks and Nature Reserves in Western Australia" Chapter 7. An extract of the extract follows -

"The most spectacular of the Kimberley paintings are of the WANDJINA type - very large figures sometimes over 20 ft long representing mythical beings who travelled through the Kimberley leaving their images in caves and rock shelters. Paintings are of a stylised type and include a large head with a halo, large eyes and nose but no mouth. The Wandjina is sometimes represented by the head only, but if the bodies are painted they are decorated with stipple marks and include bands of colour representing hair belts on the waist and knees, and sometimes on their arms.

Animal paintings are usually stylised, the body being filled in with one colour and the outline made of series of white dots or white lines. The figures are fairly crude in execution. Most common motifs are the snake, especially the water python, kangaroos, emus, crocodiles and turtles.

More elegant are the so called "Bradshaw figures", often less than one foot high.. They are often shown in dancing position and they wear long head-dresses and tassels on the arms and legs. Associated with these figures are paintings of boomerangs and barbed spears of a type not found now in the Kimberley".

Volume 2, No.3, Winter 1970, contains an article of "The Buddhist Art of the Tanhuang Caves in China". The "caves" are temples hewn out of solid rock and date from about AD 353 - AD 580. The art consists of frescoes and sculptures (Would you believe a cave called The Ten Thousand Buddha Cave?)

Volume 3, No.1, Summer 1971, contains a reprint of the article on Koonalda Cave by William Reschke which appeared on the Sydney Morning Herald of 13th February, 1971.

Another obscure magazine is "Scottish Field", whose September 1969 issue contains an article called "Caving" which describes the Traligill Valley in Scotland, "the only considerable limestone area of Scotland. There are caves which show traces of ancient occupation, but of a very primitive nature. There is no chance of finding caves with rock paintings in Scotland. The article goes on to describe an expedition of the Grampian Speleological Group of Edinburgh.

Editorial Odds and Ends cont.

The Geographical Review, published by the American Geographical Society of New York, has in its January 1970 issue, an article "The Central Kentucky Kurst".

"More than 100 caves are known in the Central Kentucky Karst, including Mammoth Cave, with perhaps 46 miles of explored passages and the larger Flint Ridge system of which more than 70 miles has been surveyed.

The major underground features in the Central Kentucky Karst are horizontal cave passages - two cross sections are typical, elliptical and canyon. Cleavland Avenue in Mammoth Cave is anelliptical passage 1.5 miles long, with an average width of forty feet and an average height of fifteen feet. The main passages of Salts and Great Onyx Caves are large canyons. The height and width of the passages in Salts Cave exceed forty feet for distances of as much as a thousand feet, and in some places both dimensions are nearly a hundred feet. Elliptical and canyon passages are often combined as "T" shaped and upside down "T" shaped passages of great complexity. Grand Canyon in Crystal Cave has a height of more than ninety feet and a floor of several thousand square feet.

The relative absence of travertine is characteristic of caves in the Central Kentucky Karst. The major sulphate is gypsum, with some mirabilite, epsomite and other sulphates. Gypsum flowers can be seen in Cleavland Avenue of Mammoth Cave and gypsum and mirabilite flowers, needles, hair and cotton are found in remote parts of the cave systems. The ceiling of the Snowball Dining Room in Mammoth Cave is covered by layers of gypsum crystals. Nitrates, possibly from organic sources such as bat guano, are found in the fill of many of the caves. The cobbles and floors of flowing streams in the lower parts of the cave systems have thin coatings of black manganese minerals.

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H I S T O R I C A L F E A T U R E.

Department of Mines Annual Report, 1908. Page 172.

O. Trickett, at the request of the Intelligience Department reported on the Cliefden Caves in connection with their protection on the proposed resumption of the Cliefden Estate.

The caves first discovered were known as the Belubula, and are situated on Licking Hole Creek. They are referred to in a Parliamentary Paper "Exploration of Caves and Rivers of N.S.W. 1882" and subsequently by C.S. Wilkinson in 1876 (Rec. Geol. Surv. 1892 III pt. 1.) The lower levels of these caves contain foul air and the caves are said to have been mutilated to such an extent as to destroy all their beauty.

The next caves to be discovered were, I suppose the first met with in travelling from Mandurama, on the north bank of the Belubula River. One of these is near the foot of a limestone cliff; the other is reached by climbing up broken rocks for 30ft on the face of the same cliff. They contain roomy chambers and originally exhibited many interesting formations, whose beauty, I found, had long since been destroyed by visitors, except in one small grotto.

There are two cave entrances nea the N.W. corner of portion 1, parish Malongulli, which have not been explored fully, but I think they may open out into interesting caverns which would be worth preserving.

The Main Cave. The principal cave, that is, the one which, so far as the caves have been explored, possesses the most beauty, is situated in the face of the northern slope of the limestone plateau of portion 1, parish of Molongulli, about 80ft above the foot of the slope and 130ft above the Belubula River.

(A description of the formations, etc follows.)

The floors are clayey; visitors hands have become dirty and many of the formations have been soiled from this cause. In addition to this want of care, visitors have deliberately chiselled out the greater part of the crystal formations which are of frequent occurence.

I am of the opinion the cave is well worth preserving, but if anything is done to protect it, the work should be carried out quickly, or little will be left that is worth preserving, except of course in the branches which have not be explored.

Historial Feature. continued.

The Fossil Hill. About 1 mile south of the caves, on the edge of a fertile flat, is a remarkable feature known as "The Fossil Hill". The hill is really a northen slope of part of the limestone plateau, although it looks like an isolated hill from the north.

Long before the hill is reached a striking picture of the folded limestone strata is presented. The weathered edges of the rocks, which occur in thin layers having a steep westerly or north westerly dip, form a currugated and grooved surface.

The Warm Spring. On the western bank of the Belubula River on portion 3, parish of Malongulli, and nearly $1\frac{1}{2}$ miles south west from the main cave, a warm spring discharges about 10,000 g.p.h.. There is one main outlet and several subsidary ones which are practically in the bed of the river. although the water flowing down the latter in ordinary seasons is lower than the spring outlets. From time to time the position of the main point of discharge changes, the result probably, of the action of floodwaters in the river.

The temperature of the water at the time of my visit was 84°.

Analysis --	Ca Co3	per 1,000 parts	0.2898
	Mg C04		0.0653
	Ca So4		0.0071
	Other		0.0765
			0.4387

It is good spring water but of no medicinal value.

This spring has been known to be running for the last 50 years. C.S. Wilkinson informed that the temperature was 88° and discharge 700 g.p.minute or 40,000 g.p.h. These figures are probably excessive.

Roads. If the caves are taken over by the government, roads will have to be provided for visitors from both the north and south.

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NEW YEAR WANDERINGS.

Present: Anita Mumby, Mike Treharne, Phil Mumby and Carol Faddy.

During our travels over the New Year holiday break, we naturally gravitated towards our old stamping-ground - Abercrombie - as tourists.

We camped there for one night, and attended inspection tours of the Arch and Bushranger's Cave. During the tours, Mr. Knox (the Superintendent) gave favourable mention to the work being done in the area by Speleos. This aroused much interest amongst those present, and our campsite became virtually an information bureau dealing with innumerable queries about Speleology.

We learned that, during the Christmas holiday period, flooding of Grove Creek had prevented inspections of the Arch for a few days and, in order to cater for visitors to the reserve, Mt. Knox had provided some tours of the Grove Cave. Apparently word of this was spread via the 'bush-telegraph' and he had received many enquiries about tours of this cave, which is, unfortunately, once more closed, having fulfilled its stop-gap function.

We spoke to a number of people who had attended these tours and were informed that they had quite enjoyed them, and were impressed by the cave decoration. It is to be hoped, therefore, that successful completion of our projects in and around Grove may help to render feasible the re-opening of this cave for public inspection.

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Just Published. "Inside B.M.S.C." an expose of the goings on behind the scenes, or as the author would like it, "A Study of Social Organisation in a Primitive Society". A booklet of 32 pages which, in line drawings and in crisp, economical prose reveals the innermost secrets of YOUR CLUB.

GET YOUR COPY NOW!

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"Yerranderie Village" an article by Phil Dorter in the Sydney Morning Herald 15th January, 1972.

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B. M. S. C. T R I P R E P O R T S.

TUGLOW.

Date of trip. 10th July, 1971.

Members present. Ian Bogg (L), Gwen and Allan Fairweather, Unita Mumby and Terry Corcoran.

Caves entered. Tuglow Main and Plasticine.

After all members had arrived at the cave, Ken Pickering led a group into Tuglow Main to the upper level, Ron Thomas & Co. headed for the Diamond Mine, whilst the remainder, not having entered Tuglow Main before were to stroll leisurely on a guided tour with me as guide into Tuglow Main. Stroll maybe, leisurely no!

On entering the cave, the first obstacle was met, obstacle for Gwen and Unita particularly.
"I can't climb down there!" "Of course you can." Eventually in true speleo spirit, the girls finally decided to give it a go using their trip leader as a stepping stone in the process.

With each step, gaining confidence, we soon made our way down to the entrance to the Diamond Mine extension, after a lot of pushing and pulling. by the male members.

We finally made our way into the Diamond Mine extension and eventually made contact with Ron Thomas and Co. On the way in the girls nearly drove the males out of their minds -

Girls: "Any Diamonds in here?"

Leader: "No."

Girls: "Why call it the Diamond Mine?"

Leader: "Let's move a little further."

Girls: "If there are no Diamonds here why call it the Diamond Mine?"

Leader: "Let me put it this way ....."

Girls: "In other words, you don't know?"

Leader: "No."

Between answering questions, being stomped on (Willingly) pushing, tugging, and all between curses, they made it.

We made a fast exit out of the mine, and down to Ward's Chimney, only

Tuglow. 10th July, 1971. continued.

to turn back when certain members' confidence waned. Calling it a day, we headed out. Anyone having seen us moving out would have thought that the girls were trying to set an all time speed record,

On reaching the top, the party rested, then had a look at the Plasticine Cave.

Having enough caving for the day, we headed back to camp, after a most enjoyable but unusual day's caving. Without the assistance of Terry it would have been very interesting indeed.

Members present. Ken Pickering (L), John Gallard, David Schwarze, Barry Richards and Gordon Wright.

Aim. To familiarise John Gallard, a Ranger from Blue Mountains National Park and a member of B.M.S.C. with the upper level of Tuglow.

This was a subsidiary trip to the main trip led by Ian Bogg. The main aim was to familiarise John Gallard, a Ranger from Blue Mountains National Park and a member of B.M.S.C. with the upper level of Tuglow.

The cave was entered at 10 a.m. and the party proceeded without incident to the upper level. We took John as far as the left hand extension, but not wanting to get wet, we went no further upstream. After an uneventful trip we exited at 4.30 p.m. after 6½ hours. Barry Richards and Gordon Wright had an extra hour's caving before the rest of the party entered.

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EXCELSIOR EXPLORATION.

Date of Trip. 24th July, 1971.

Members Present. Ian Bogg (L), Barry McWilliams, Lionel Baker and Allan Gill.

Aim. Exploration of Limestone Deposits in the vicinity of Excelsior and Carlos Gap. - County of Roxburgh.

After meeting at the pre-arranged time at Springwood the party headed off towards Capertee situated some 27 miles north of Lithgow on the Mudgee road.

On arriving at Capertee at 8.00 a.m. we decided to locate the two large limestone deposits located some 2-3 miles east of Carlos Gap Rail siding. We eventually located the turnoff some 3 miles along the Capertee-Glen Davis road, which we followed until the old "Carinya" Kerosene shale mine

Excelsior Exploration. 24th July, 1971. continued.

was reached.

Here confusion was paramount as there are no defined tracks. There are tracks leading off in all directions. However the ever friendly neighbourhood property owner was very co-operative and following his directions we were on our way again.

The road is well defined once you pass through "Carinya" and it follows the base line of a very high escarpment until you reach Oaky Creek.

The general topography is extremely interesting. As you head northwards there is a broad open valley on the left surrounded by very predominant escarpments. In the floor of the valley there are large Bluffs. One very prominent one is known as McDonald's Mount.

Approximately at 9.00 we reached the southern end of the limestone deposit.

After spending $\frac{3}{4}$ of an hour walking and driving over the limestone we eventually reached Oaky Creek where a stop was made for a welcomed cup of tea. The limestone is covered with a very heavy over burden and doesnot present any major Bluffs or outcropping of limestone. No caves or sinkholes were located and there appears to be very little prospect of finding items of interest apart from the dolomite intrusion of the limestone.

After a [illegible], we explored the remainder of the outcrop to no avail. We then turned back and headed for the deposit at the Excelsior rail siding.

The deposit here proved a little difficult to locate, however for those who may follow in our path, the directions are as follows: "Once you cross the old bridge over the Railway line turn left and follow the Railway until the remains of an old house is reached. From here you lead off in a North Easterly direction towards the old quarry.

It was quite an unexpected sight when we followed the old tramway down to see the water filled quarry. The water was a brilliant emerald green. The walls of the quarry were scanned for evidence of caves but none were seen. We then turned and walked to the second quarry where two caves, or more specifically, the remains of caves, were seen. One of these was entered for approximately 50 feet.

After climbing up out of the quarry we walked over the remaining limestone, locating no caves. However, Lionel managed to locate some excellent coral fossil material which provided some interest. On our return to the Land Rover we made our way back to the old house for lunch.

Excelsior Exploration. 24th July, 1971. continued.

During lunch Lionel was the subject of oral harrasment due to his fine effort earlier in the morning in disturbing a hive of bees. Apparently bees do not worry Lionel, who after disturbing same slimbed back into the Landrover and waited, till we were on the move then he shook his trouser legs and out came a number of very agitated bees. A very hasty exit was made by the other occupants, particularly Allan, who was in the back. Without waiting for the driver to alight, in one giant stride he pushed the driver to one side, cleared the seat, hit the dirt, and went flying off through the scrub. Needless to say, Lionel was not very popular.

After lunch, we headed off up to the limestone deposits at Clandulla and Brogans Creek only to find that extensive mining is in progress. With sleet starting to fall, we turned back and headed for home rather dejectedly.

The result of the day's exploration indicated that there is little possibility of finding any caves and it therefore writes off another area in our quest for new caves.

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ABERCROMBIE CAVES.

Date of trip. 7th and 8th August, 1971.

Members present. Ken Keck (L), Allan and Gwen Fairweather, Mike Treharne, Unita Mumby, Barry Richard and Terry Corcoran.
Also present on a separate permit from the Tourist Department was Keith Oliver with five members of H.C.G..

Grateful acknowledgement is made to H.C.G. for the use of their R.D.F. gear and their very helpful assistance on this trip.

Most of the party arrived at Abercrombie on Friday night in rather indifferent weather conditions, and we all were very heartened to awake to broken sky and a fine morning on the Saturday.

We were greeted by our old friend George Knox and John who is standing in for George during his annual holiday. The key of the Arch was given to us and we broke up into two groups. One group consisting of Gwen, Unita, Terry and Dave (from H.C.G.) interested themselves in the Grove cave dig.

They extended the dig about three feet. Progress was steady through loose rubble in a confined space, and about six hours were spent on the Saturday with assistance of assorted "potties" to assist the excavation

Abercrombie Caves. 7th & 8th August, 1971. cont.

supplied as usual by the ladies. Part of the False Floor was broken through. The passage appears to be widening as it is deepened, although a crow-bar probe indicated that at least another three feet of rubble - very wet in places - is below the dig. Some bone material was recovered including portion of a skull, apparently wallaby.

Mike and Terry again descended the dig on the Sunday. Removal of some loose rocks from the side of the hole at the false floor level revealed a former creek bed running beneath the existing silt floor. The bed was of typical river stones and well calcited. One river stone, most likely basalt, was about 10" long and between 3-4" diameter, giving support to the theory that considerable water passed through this passage. Further work in this dig could prove most rewarding. A special thanks is due to Dave (H.C.G.) for his efforts on the working end of the shovel.

The remainer of the team, having left the above party to the Grove Dig, proceeded to set up the ladder and climb into Koh-i-noor cave. This task was not made easier by the fact that the recent rains had caused the river to run a much higher level than normal. However we reached the rock in midstream below Koh-i-noor with the aid of a horizontal ladder, and finally the caving ladder was in place and the cave entered. R.D.F. transmitter was set up in the far extension of the cave, and a field telephone was set up within earshot of the transmitter with a cable leading around the bluff into the entrance of Bushrangers Cave.

Lack of adequate communication, particularly additional telephone and cable, was a serious setback to the smooth running of the project, and indeed poor co-ordination of equipment, even to the extent of shortage of ladder (only one length was available), hampered the achievement of a really conclusive report on the project.

However, with remarkable fortitude, some of the members acted as runners to keep communications open, but at one stage we needed five people to relay messages from the R.D.F. receiver operator to the telephone. Despite this handicap it seems pretty sure that no connection exists between the two caves although there is a long extension in a deep cleft running off from the top of the Pulpit chamber in Bushrangers which needs further investigations before a final statement could be made.

Work on the R.D.F. side continued through Saturday and into Sunday when Keith Oliver led a party down the cleft again but was hampered by lack of ability to communicate with the party at the transmitter.

The effort was finally abandoned about midday on Sunday when some of H.C.G.'s more adventurous members decided to put George's ladder across from the rock in midstream over towards two likely looking holes just above water level. These were found to have quite extensive crawl passage.

Abercrombie Caves. 7th & 8th August, 1971. continued.

While in Koh-i-noor cave, George Knox suggested we try to enter a likely looking ledge in the roof of the chamber, and after bringing the wooden ladder, the section was investigated but without result as it closed off without any possible extension.

The new entrance to the Grove cave was closed with planking to preserve the atmospheric conditions in the cave.

Caving hours registered were 6 hours on Saturday and 2½ hours on Sunday.

Tribute must be paid to Gwen and Unita, who, despite the absence of a ladder, successfully roped out of the dig in Grove cave. This tribute must also of course be extended to cover their contributions to a most enjoyable campfire on Saturday evening.

We reported out to George Knox on Sunday afternoon and left about 4 pm.

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COLONG.

Date of Trip. 28th and 29th August, 1971.

Members Present. Ken Pickering (L), Unita Mumby, Mike Treharne, Allan Fairweather and Terry Corcoran.

Departure from Glenbrook was made punctually at 0500 hours Saturday morning and after stopping at Hampton at 0630 for petrol we arrived at Batsh Camp at approx. 0830 to find about 30 other people already camped there. One group of about 20 people showed their appreciation of the finer points of nature by distributing small piles of beer cans every few hundred yards between Batsh Camp and the Caves - quite an achievement. It seems absurd that members of an accredited speleological club have to seek permission to visit Colong when an unsupervised and ill equipped rabble like this can wander in at will. Another purely social group was found camped in the Arch Cave.

Five and one half hours were spent inside Colong, giving the other four members who were on their first trip a good chance to look around, especially in Woof's Cavern.

On Sunday we drove back along the Bindook super-highway and, leaving Allan to guard the vehicles, we walked to the Murriun-Limestone Creek deposit to check it out for caves. The Handbook mentions two caves, one

Colong. 28th & 29th August, 1971. cont.

with a total of 120ft of passage, and the Mines Dept, Report mentions a large sinkhole on the southern side of the deposit.

Unfortunately we left our exploration till after lunch. Perhaps we ate too well, because we didn't find anything like these features.

However, when we were on the point of giving the job away, I noticed a small opening 100ft or so above creek level and Mike and Terry dropped the ladder down into a reasonable pothole. The first drop 23ft was into a cave formed along a widened joint. At one end there is another drop of 20ft or so which is very tight, and, having no more rope, we left it alone. However, the cave has further possibilities and Mike collected a wallaby skeleton for despatch to the Museum. As the weather was closing in, with rain becoming more frequent, we headed out at 1500 and reached the cars at 1630.

There are some beautiful patches of rainforest in the creek above the limestone deposit - Nita was in her element. A nesting Lyre bird was found and also a non-nocturnal wombat was seen trundling through the scrub. The road in the vicinity of Shooters Hill was lined with deep snow drifts which lasted all through the weekend. Apart from our contact with the species homo sapiens (?) at Colong, everyone voted it a most enjoyable and beautiful weekend.

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WYANBENE.

Date oftrip. 2nd to 4th October, 1971.

Members Present. Ian Bogg (L), Geoff. Deane, David Schwarze, Phil O'Connell, Unita Mumby and Mike Treharne.

Aim of trip. C.R.C. familiarisation weekend with members of B.M.S.C. H.C.G.? M.S.S. and S.T.C.C.C.

Saturday: We met at the Shoalhaven River during Saturday morning. After setting up camp and partaking of an early lunch, 15 of us headed off to visit Wyanbene Main Cave.

On arrival at the Cave gear was gathered and we headed off up the Cave to get wet. On entering the party soon came to a halt - Water! Upon the insistence of Keith Oliver of H.C.G. the party began to tackle the water, attempting to traverse above it. However some soon met their ultimate fate, they got wet. This aroused mirth amongst the members who were fortunate enough to remain dry. But not for long.

Wyanbene. 2nd to 4th October, 1971 cont.

After negotiating the Keyhole and ladder pitch we were confronted with more water and it was here that a certain member created havoc by splashing the mud bank with water. Some brave and hearty Cavers could not get around the by now extremely slippery mud bank and ended up in the "Drink" which set the scene for what was to come.

Very soon after, the start of the water crawl was met and here a rest stop was called. This enabled some bods who were unsure or feeling insecure to contemplate the water crawl.

Suddenly, one made a move and into the water we went, stretching out on hand and toes trying to keep as dry as possible. Some of the party could not travel very far in this manner and collapsed with an almighty splash - in they went amid curses and laughter.

It was funny to see how the water affected some people as they began to play around like performing seals, wetting others in the process. Fortunately the water level was down, and for those who did not use the bypass, negotiating the snickett or squeeze was accomplished in comfort.

Upon leaving the water the passage ahead became extremely muddy and slippery, particularly the "Lavatory Pan". When the party reached the Junction Chamber (Gun Barrel and Caesar's Hall) the party split up, as some were beginning to feel the effects of the water and were going to make their way out. The balance of the party then made their way up through the rock pile into Caesar's Hall whose size amazed one and all. With other Cavers in the Hall we decided to pull out and return to the surface.

The other half of the group were found again at the base of the ladder pitch where due to exposure some of them were having difficulty negotiating the ladder and the Keyhole. However we soon had all the party out, emerging from the cave amid extremely cold conditions, which, added to the coldness of the water, proved too much for some.

Sunday. Trips were arranged to various areas, namely: Big Hole, Marble Arch and Chietmore. As the bulk of the party had not been to the Big Hole it became the centre of interest.

Before leaving camp we had 10-12 prospectives for the Big Hole, but upon arrival they soon changed their mind. Photographs do not do it justice, it must be seen to be believed. From there we moved off to Chietmore where numerous holes were entered and confrontation with a number of snakes occurred. As foul weather began to set in we headed back to camp where an enjoyable evening was spent in the new pastime of "Mad Libs."

Wyanbene. 2nd to 4th October, 1971. cont.

Monday. No caving was contemplated as the bulk of the members wished to return home early via various other caving areas.

During the weekend, contact with members of other clubs was made namely U.N.S.W.S.S. and S.U.S.S.

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THE REAL AND TRUE CHRONICLE OF THE C.R.C. CONFERENCE OF 1971.

The three tribes of C.R.C. did gather for three days in the wilderness and did set their tents beside the Shoalhaven River.

On the first day their leader did lead them unto the Cave of Wyanbene, saying unto them "Go down - or else." And they did go down. And he did lead them beside a river of foulness. And there were those who did fall by the wayside into the muck. And there were those who did follow the dry and narrow path.

And foremost amongst the first kind was Ian the Bogg. Ah, verily is he a scion of the Brass Monkey Swimming Club. For he did take to the mud as a pig unto filth. And he did wallow and make great waves with many cries of joy. And some of the people did look upon this, saying unto themselves "See - he is joyful, it must be good!" So they did follow him. And found it not good. And they did make a great moan. And they still do, even unto this very day.

And foremost amongst the second kind were Geoff the Deane and Mike the Treharne who did manfully press their bodies through a cleft in the rock, that they might come pure and unsullied unto Caesar's Hall. Yet was their triumph short lived for upon departing from that place they were unable to pass once more through that cleft. And even they were forced into the foul pit. And their besmirched bretheren did laugh up their sodden sleeves.

On the second day they did go forth on a pilgrimage to the Big Hole. And they did climb upon the hillside till they did reach this place. Their leader cried "Behold! - The Hole!" And they did creep forward and behold. And there was great greening of the gills. And the flutter of tummy-butterflies was loud in the land. Their leader then did say unto them "Tempus fugit - we must depart." And though there were amongst them those who sorely desired to descend that gulph, yet none would gainsay their leader. Such obedience is a wondrous thing!

Chronicle of C.R.C. Conference: cont.

The people did then repair to the place of Chietmore and did enter a cavern. And great was their jubilation for it did contain as many holes as a moth-eaten toga. And here did they disport themselves with gay abandon.

On the third day the tribes did renew their vow of blood-brotherhood. And with a heavy heart did each man bid his brothers a fond farewell. And drive slowly sideways into the sunset.

Thus is the story recorded and thus let it be told around the campfires of our people.

SARCASTICUS.

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ABERCROMBIE CAVES.

Date of Trip. 16th and 17th October, 1971.

Members Present. Ken Keck (L), Allan and Gwen Fairweather, Mike Treharne, Unita Mumby, Terry Corcoran Barry Richard and Ian Bogg.

Aim. Extension of the Long Tunnel by the use of R.D.F. gear. Further Excavations in the Grove Cave.

This was a combined trip with members of H.C.G. who assisted and provided the R.D.F. gear. Their group was led by Keith Oliver and comprised a total of 8 members all of whom were in the area under separate permit arranged with the Department of Tourism.

Most members arrived on Friday evening, and the party was completed with the arrival of a group of H.C.G. members from Canberra on the Saturday morning. The trip leader reported to the Superintendent, Mr. George Knox, and caving commenced at 9.15 am with a party entering the Long Tunnel and setting up telephone communications to the entrance. Another cable was then taken from the Cave entrance to the far end of the Arch and around the hillside to the location where we anticipated a new entrance could be found to the Long Tunnel.

Abercrombie Caves. 16th & 17th October, 1971. cont.

With a party of three located in the end chamber of the cave operating the telephone and transmitter, the remainder of the party took the telephone cable with phones and R.D.F. receiver gear to the cliff face outside the Arch.

Signals were quickly picked up, and finally a spot was located slightly above the old bridle track on the hillside where the strongest signals were located.

This turned out after due investigation and removal of some undergrowth, to contain several holes going down at a steep angle into the hill, but the most likely entrance was blocked by a large limestone rock seemingly part of the bed-rock.

The party returned after lunch, and during the afternnoon excavated around the rock at some depth, and after much physical effort and experimentation, succeeded in moving it at about 5 pm. Ken Ward then descended and found that he could easily establish voice connection with members inside the Long Tunnel. This was reported to Mr. George Knox, and it was suggested that it may be undesirable to further open the cave at present due to possible effects on its general ecology and the small bat colony which inhabits one section of it.

George agreed that this was the best course to follow, and having now established that a through cave is practicable should development be desired in the future, the object was achieved.

Meantime a group of intrepid diggers had been labouring all day in the lower dig of the Grove Cave, and on the return to camp reported more encoutaging developments. The passage they were digging proved to be unusually wet, and an unexplained draught pattern was developing which could indicate possible extension.

Saturday evening was spent in the usual pleasant fraternal way, and Sunday saw a small group climbing the T.V. mast to help George Knox make some adjustments before rejoining the main group in recovering the cables and gear from the previous day's efforts.

The R.D.F. transmitter was then set up in the top of the Cathedral cave at the suggestion of George Knox, and in the hope of establishing a possible top entrance to the cave from the sink hole in the top of the Arch.

The surface party soon located strong signals on making an initial line traverse across the strike of the limestone, but where unable to establish an intersecting line of reference to pin-point the transmitter due to an unexplained consistency in signals received when working parallel

Abercrombie Caves. 16th and 17th Octo., 1971. cont.

to the strike. After some two hours the project was abandoned for further investigations of the cause of these unusual signals.

A final visit was paid to the dig in the Grove Cave, and an attempt to establish sound connection with cave 23 was made. Faint signals were heard and it seemed probable that connection will eventually be established between the two caves.

It was evident that the work that is being done in the area is very much appreciated by the Superintendent, and his friendly co-operation helped to make this yet another very pleasant and constructive trip to Abercrombie.

George indicated that he will welcome another trip from our clubs at any time, and the further work now recomended is:-

(a) Further work on the Grove dig and probable connection with No.23.

(b) Further R.D.F. work in the top of the Cathedral Cave when the cause of the problem found on this trip can be resolved.

(c) Re-opening and possible extension of the second entrance to the Grove cave in the opposite direction to the known cave.

(d) Thorough investigation and exploration of the Shepherds or Stable cave in view of reports from a party who did a quick trip through that cave during this weekend.

Thanks should be expressed to H.C.G. for their ready co-operation on this trip, and to George Knox for his unfailing hospitality and help.

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CLIEFDEN.

Date of Trip. 30th and 31st October, 1971.

Members present. Barry Richard (L), Geoff Deane, Johanna Langejans, Ian Bogg, Mike Treharne, Unita Mumby, Allan Fairweather, and Gordon Wright.

I arrived at the campsite beside the river two miles on the western side of Carcoar at 10.45 pm. Geoff and Ian arrived in the wee small hours of the morning.

After breakfast the following morning we waited until 9.30 am for Mike Unita and Allan to turn up but it turned out they were not able to join up until later on in the afternoon.

Cliefden. 30th & 31st Oct, 1971 cont..

Another hour saw us at our destination togged up and looking for the bottom entrance to Big Cliefden so that a through journey in Big Cliefden could be made. Finding the bottom entrance we discovered the key to Big Cliefden top entrance did not fit the lock on the bottom entrance.

On entering the cave we found it to be very humid and also quite muddy in places.

During one of the smoko stops inside the cave the B.M.S.C. Chief Blowfly catcher decided he would build himself a tomb for the caught prey. After catching in the vicinity of a dozen flies the lid was completely sealed in mud and we all departed. We came out at 4.pm very muddy. We proceede to the campsite beside the river and also near the entrance to Boondaroo.

After a brew and clean up we went looking for the entrance to Boondaroo. The entrance was located and bearings taken so that we could find it after tea.

Mike, Unita and Allan arrived at 3.30 pm and had not been underground.

After dinner Mike, Unita, Gordon, Ian and myself went off to explore Boondaroo. We entered about 9.30 pm and found a swallow was rearing her chicks just inside the entrance and did not welcome our visit.

Inside the cave, one passage, presumably a dig, was extremely dangerous due to loose dirt and rock walls and also being a vertical shaft made it a lot more tricky. It kept going down for about 30ft then through a rock squeeze and on a ledge with a 20ft drop beneath. With everything around us crumbling when touched, we decided not to trust the ledge and also with no ropes [illegible] with us we decided to find some other part of the cave to crawl through. After exploring the rest of the cave for about 2 hours it was still going on so we decided to explore further the following day.

On Sunday we split into two groups, one doing Murder Cave and the other Boonderoo. Approximately 3 hours in both caves. Ir the afternoon on the way out of the valley we had a quick look at C16which we will investigate on a later trip.

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CHURCH CREEK.

Date of trip. 13th and 14th November, 1971.

Members Present. Ian Bogg (L), Allan Fairweather, Geoff Deane and Johanna Langejans.

Aim. To explore vehicular access to Church Creek.

After arriving at Black Swamp early Saturday morning we hit the bags for a few hours sleep. Next morning fed and watered, we consulted the various maps whilst waiting for the third group to arrive.

When the other group had not arrived at 8.30 am we decided to wait another ½ hour during which time we decied what we would attempt first.

At 9.00 a.m. the other group had not arrived. We left looking for all possibilities. It was not long after that a vehicular track was located and turning the Rovers off into the bush, we began to follow it.

It appeared to be heading in the right direction, but was very indistinct in parts and doubts arose as to the future prospects,when suddenly we came out on a well-made road. Jubilantly we headed for Church Creek.

We eventually made our way out to Mr, Armour. The scenery was tremendous.

Upon arrival we lunched, then began to acquaint ourselves with the area generally, locating several small holes in the process. The limestone outcrops in large bluffs and covers an extremely large area.

It was no surprise that A.P.C.M. would be interested in this little bit of limestone.

During the afternoon rain began to fall and we headed back to camp.

A very enjoyable evening was spent around the fire celebrating a birthday with Blackberry Wine and Saveloys specially brought along as a surprise.

On Sunday we decided to take the opportunity to visit Yerranderie, whilst we were in the area. It gave us a strange feeling to walk back through history in this old mining centre. At Yerranderie we met one of the local property owners (Mr. Gadner?) who informed us that Yerranderie was in the process of restoration as a tourist attraction.

Church Creek. 13th and 14th November, 1971 cont.

With rain beginning to fall we made our way home feeling extremely jubilant on having eventually found a way through to Church Creek after spending many frustrating and abortive attempts during the year.

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ABERCROMBIE CAVES.

Date of trip. 11th and 12th December, 1971.

Members Present. Allan and Gwen Fairweather, Mike Treharne, Unita Mumby, Bob and Robyn Jarvis, Barry Richard and Family and Ken Keck (I), also Monica Sammutt together with a goodly number of H.C.G. members.

The objectives of this trip were to locate a positive link between the top of the Cathedral Cave and the top of the Arch, to prove the feasibility of opening an exit from the cave and allow a one way tourist inspection.

The second objective was to extend if possible the Grove Cave where the new exit had been dug on a previous trip.

Members also visited the Stable Cave for detailed exploration.

With the assistance of members of H.C.G. under the leadership of Keith Oliver, we were successful in fixing a point above the Cathedral Cave by the use of Radio Direction Finding equipment, and a spike was driven some five feet into the surface above the Arch, to pierce the roof at the highest point in the Cathedral Cave. The section in which this connection was made is largely conglomerate and it would be a very simple matter to excavate an entrance. This would allow public inspection of the King Solomon's Temple Cave to be combined with inspection of the Cathedral Cave without using the main arch entrance at all, i.e. the party would enter the high level gate to K.S.T., proceed through the cave and then up into the Cathedral Cave and out through the new exit which has been proved.

The advantage in this would be that simultaneous inspection of the Arch and (say) Bushrangers Cave could be conducted at the same time as a K.S.T.-Cathedral inspection is in process. This would help considerably in handling big crowds at peak seasons. Up till now this has not been known to be feasible.

Abercrombie Caves. 11th & 12th Dec, 1971. cont.

Work was carried out at the end of the Grove Cave with some success, as the cave seems to be opening out some fifteen feet below the surface at the newly dug second entrance. This is a logical extension of the cave beyond the flowstone which at present blocks the end of the cave, as there was a substancial mud and rock fill behind the flowstone which seems to be yielding to consistent excavation in this area.

A point of interest was the unearthing, some eight feet from the surface and thoroughly embedded in the mud fill of an old "Spud bar". It is very difficult to account for its presence in the position where it was found, and it has been passed to the Caves Superintendent as an interesting souvenir. It was found in a position where there was no previous evidence of excavation, and so far below the surface as to make its location inexplicable.

As usual, we were made very welcome by Mr. George Knox, and we appreciated his hospitality and that of his good lady in having us in for a cuppa on the Saturday evening, following a slide showing by Roy Grinham of H.C.G. on the old dance floor in the main arch. Other campers in the area were also invited. Thanks to Roy for a very fine effort.

Also very much appreciated was the taped music supplied by Allan Fairweather both at the camp site and at supper on Saturday.

At the conclusion of the slide show a small Christmas presentation was made to George Knox, and he was thanked for his co-operation during the past year, with hopes expressed for bigger and better things in the future.

We reported out of the area at 3 pm on the Sunday.

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ABERCROMBIE.

Further to our find of the spud bar at the Grove exit, the Superintendent advised us that he had been unable to ascertain any details to date, but he was of the opinion that it was probably forged at the Caves Reserve.

He is endeavouring to learn more about this find from the retired Superintendent, Bob Coop.

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THE GROVEDIGGERS.

Unita Mumby,

One morning as I tramped across a hillside,
Out on a hike to exercise my socks,
A most peculiar group of people I spied,
Digging madly in a pile of rocks.
And as they dug, they chanted low
"We know this dig is gonna go."

A wild fanatic gleam glazed every eye,
As to the task their willing backs were bent.
And in their zeal they made the boulders fly,
And heavenward, great gouts of earth they sent..
Ever panting, soft and low
"Here's one dig that's gonna go."

All that day I watched them at their labour,
As inch by inch they sank into the ground,
Each man working harder than his neighbour,
The clink of trenching tools the only sound.
Except when one would mutter low
"I hope this dig is gonna go."

Well from that distant day until the present,
Full many long, slow years had passed between,
When once more, on a morning cool and pleasant,
My faithful boots returned me to that scene.
I wondered as I wandered slow
If that dig did ever go.

There I found a lofty mount of soil,
Fresh turned, with yet no grass to cover it,
Most patiently produced by human toil,
With at its base, a grim and gaping pit.
Very shortly I would know
If that dig did ever go.

As I approached in breathless trepidation,
And o'er the jagged lip, I poked my head,
From gloomy depths a ghostly incantation,
A sobbing wail that filled my heart with dread,
Echoed upwards from below
"This bl--dy dig has got to GO!"