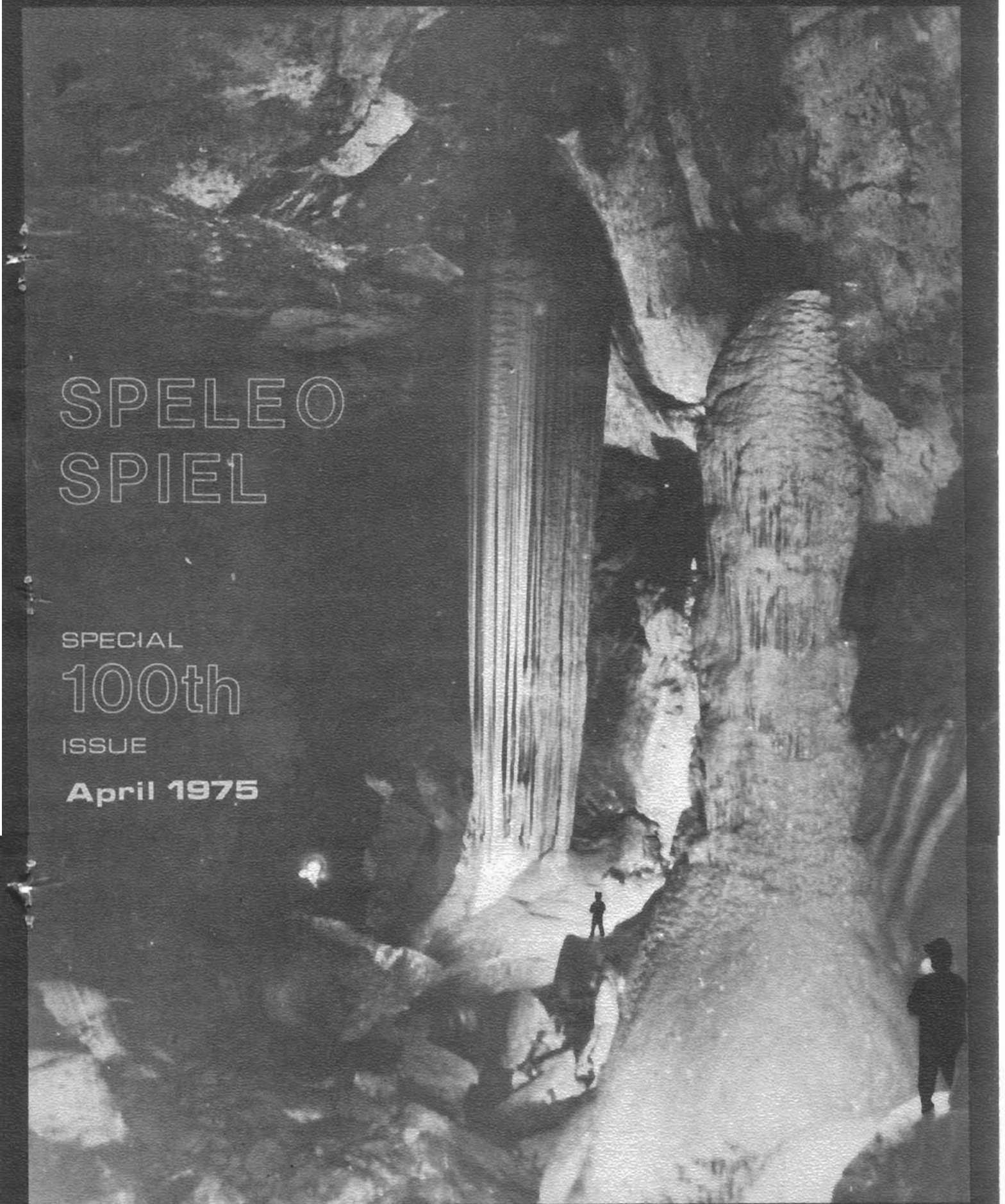


SPELEO SPIEL

SPECIAL

100th

ISSUE

April 1975

NEWSLETTER of the TASMANIAN CAVERNEERING CLUB (T.C.C. Established 1946)

Registered for posting as a periodical – Category B

Annual subscription $3.00. Single copies 30 cents.

President:- Albert Goede, 8 Bath Street, Battery Point, 7000.
Secretary:- Tony Culberg, P.O. Box 47, Sandy Bay, Tas. 7005.

CHANGE OF ADDRESS ---- IMPORTANT ---- CHANGE OF ADDRESS ----

The club's address has been changed. Our new address is:-

TASMANIAN CAVERNEERING CLUB,
BOX 416, P.O.,
SANDY BAY, Tasmania, Aus. 7005.

FORWARD PROGRAMME.

April 12	-	Saturday: Trip to Khazad-dum, Junee area. S.R.T. party ONLY. Leader: Peter Shaw.
April 12,13	-	Weekend: Trip to Junee-Florentine with Saturday-night slide show in Maydena. Leader: Laurie Moody.
April 19.20	-	Weekend: Mole Creek. Cave numbering and surveying. Leader: Andrew Skinner.
April 25-27	-	Long weekend: Underground camp in Exit Cave, Ida Bay. Leader: Andrew Skinner.
May 3,4	-	Weekend: Surface exploration in Western Florentine area. Leader: Laurie Moody.
May 7	-	Wednesday: General Meeting, 8 p.m. at the Moody's place, 13 Mason Street, Claremont. Bring your slides.
May 10,11	-	Weekend: Mole Creek, Cave numbering and surveying. Leader: Andrew Skinner.

Editorial.

This is a special occasion to celebrate the 100th issue of Speleo Spiel. For more than nine years the Spiel has reported our activities and as a result we have a better record of this period than of any other time during the club's history. This issue contains a special article by Laurie Moody to highlight major events that have been published in the Spiel. There is also an article by Peter Murray on fossil bones in caves and a further report by myself on the activities of the Cracroft Expedition. Our sincere thanks to Ross Ellis who has arranged the printing of the special cover for this issue. Ross is the editor of the Journal of the Sydney Speleological Society and a long standing subscriber to Speleo Spiel. We are also very grateful to my wife, Therese, who cut the stencils for all but a few of the first one hundred issues. Beginning with the May issue Laurie and Sue Moody are taking over as editor and typist. We wish them every success and hope that members will continue to support the Spiel as they have done in the past.

Albert Goede.

AUSTRALIAN SPELEO ABSTRACTS

Guide to Australian speleological literature.

The 1973 issue(complete in one 120 page volume)is now available. A.S.A. is the concise, comprehensive and convenient summary of published works relating to caves and caving in Aus. The 1973 issue contains references to nearly 1300 items - a single volume library! Keep abreast of what's happening in Australian speleology - subscribe to - - - Australian Speleo Abstracts

A.S.A. 1973 is available from: Greg Middleton,
9 Nixon Street, SANDY BAY, 7005.

Cost: $2.00(+ 50cents if posted).

NEW COMMITTEE

Congratulations to the new committe elected at the March A.G.M.

President: Albert Goede.

Vice-President: Andrew Skinner

Secretary/Treasurer: Tony Culberg

Editor: Laurie Moody

Editorial assistant: Sue Moody

Quartermaster: Brian Collin

Search and Rescue Officer: Bill Lehmann

Search and Rescue Co-ordinator: Brian Collin

Keeper of Archives: Albert Goede

Committee Members: Peter Shaw, Henk Meerding, Stuart Nicholas and Bill Lehmann.

Delegates to Fedn.ofBushwalking Clubs: Bill Lehmann and Andrew Skinner.

Delegate to South West Committee: Roy Skinner

Delegate to A.S.F.: Tony Culberg

. . . .

Membership Subscriptions.

Membership fees remain unchanged from last year and members are reminded that subscriptions for 1975-76 are now overdue. The rates are :

Full members(over 18 yrs)	$5-50
Family Members	$8-00
Junior Members	$3-00
Associate Members	$3-00
Subscribers to Speleo Spiel	$3-00
Entrance fee for prospective members	$1-00

The full and family membership fees include a $2-00 contribution to A.S.F. and entitles one to receive the A.S.F. Newsletter. Junior and Associate members wishing to subscribe can do so by paying the extra $2-00. Please pay promptly as this makes the job of the Treasurer and those responsible for posting the Spiel very much easier. A cross here ________ indicates that you are still unfinancial. Either hand your sub. direct to Tony or mail to the club box-P.O. Box 416, SANDY BAY, Tas. 7005.

New Member.

At the A.G.M. Dave Walton from New Zealand was elected as a full member. His address is c/o Box 47, P.O., Sandy Bay, 7005. Welcome to the mob!

New Party Leader.

Also at the Annual General Meeting Tony Culberg was elected as a party leader.

- -

Australian Speleo Abstracts - Australian Speleo Abstracts - Australian

Back issues of A.S.A. are also available:-
1970(2) 50 ¢; 1971(1)&(2) $1.50; 1972(1)&(2) $1.50
(PLUS 35¢ postage for each issue)

Available shortly: A.S.A. Author and Subject Index 1970-72 A complete index to the first 3 years' issues. Enquiries:G.Middleton or Ross Ellis, 14/10 Fourth Avenue, CAMPSIE, N.S.W. 2194.
A.S.A. is published by the Sydney Speleo Society in association with the A.S.F. Commission on Bibliography. Greg Middleton, Editor.

REMEMBER THOSE GREAT EDITORIALS ?

The first Speleo-Spiel appeared in print exactly nine years ago this month. Since April 1966, many great achievements in speleo -logical development have taken place. This centenary edition will attempt to help you re-live some of the most-publicised events which have occurred in the last nine years. The first of these 'greats' appeared in the December issue of 1966. The editorial of Spiel No.9 reads as follows:-

"It couldn't happen TWICE - not in two consecutive weekends and in two different areas - BUT IT DID!!!!!

On the 30th October, a party of six made a big break-through in Kubla Khan by scaling a flowstone wall at the far end of Cairn Hall and exploring a series of passages beyond until time and failing lights forced them to turn back at the edge of a thirty foot hole which occupied the floor of the passage.

Then the following weekend 5,6th November, a party of seven made a big breakthrough in Exit Cave by finding a way through the talus at the far end of the cave. Another half mile of stream passage was explored and further progress is possible through talus. There are also a number of promising side passages that have not yet been explored. The total length of explored passages in Exit Cave is at least 1½ miles and it would seem that we are now no more than 1200 feet away from the far end of Mystery Creek Cave (Entrance Cave). (It also seems that Dennis will soon have to buy those 2 dozen bottles of beer.) The chances of linking the two caves now appear to be very bright. We are concentrating on finishing a survey through the cave in order to find out exactly where we are in relation to Mystery Creek Cave. Survey teams have already put in 60 permanent stations and another 40 stations will be needed to reach the far end of the cave. The new discovery has made Exit Cave the largest cave in Tasmania. If Exit and Mystery Ck. Cave can be linked, the resulting system would probably be the second largest in Australia after Mullamullang Cave on the Nullarbor Plains."

But more excitement was to follow. On Sat. 3rd December, a party of four followed up the earlier discovery in Kubla Khan. They chimneyed across the hole in the floor and discovered a chamber which in size ranks second only to Exit Cave, being at least 600 feet long, 100 feet wide and 80 - 100 feet high!

This editorial goes on to describe the discovery of the 'Khan', 'Helictite Dungeons' and the 'Khan's Army'. Undoubtedly we have come a long way since this editorial appeared. In the case of Exit - a mile a year! The February 1967 editorial announced the discovery of a vertical shaft near the campsite in Exit and called for volunteers to explore it. Spiel No.15 devoted its editorial to that cave of caves - Exit, Exit, Exit, EXIT!!! - and went on to say that it was exactly one year since the last track cutting party had completed the "Brooker Highway"(that well known route through Reece's Bog). The cave's length now exceeded four miles of passages with another two miles yet to be mapped. Also in the news at that time was the intended assault on the shaft emerging in Exit. The entrance to this shaft, now known as 'Mini-Martin', had just been located on the surface and indications of large pitches were apparent. It was estimated that the depth of this shaft would be between 600 and 700 feet - another record?

The 16th edition had this to say:-

'A NEW AUSTRALIAN RECORD!!!

No, we haven't broken the Australian depth record(yet), but on our first attempt to link 'Mini-Martin' with Exit Cave we have set a new Australian record of 360 feet for a single ladder pitch."

Speleo Spiel No.17 announced a new Australian depth record. On August 19th, two club members, Allan Keller and John Marshall

plus Dick Porch(TCCNB), backed by a large support party descended 'Mini-Martin' and officially linked it with Exit Cave to establish a new depth record of 720 feet. The record prior to this was held by Growling Swallet in the Florentine Valley and had been establish-ed by TCC in February, 1957.

The following Spiel announced that Exit now totalled 5¼ mls. of passage. The 21st edition of the Spiel, in February 1968, de-creed that three new holes were being explored in the Florentine. It is also interesting to note that the annual subscription for the Spiel was only 60 cents. The 25th edition, June 1968, had this to say:-

"We can now claim officially that Exit Cave is the longest cave in Australia as the traverse has just passed the 7 mile mark. Apart from having the greatest length of passages of any Australian cave, it holds three other Australian records. It is also the deep-est(720 feet), has the longest single ladder pitch(360 feet) and the longest gypsum needle(approx.3 feet)."

"Midnight Hole - Australia's Second-Deepest Cave!" This was the heading for the 27th edition of the Spiel. The editor-ial went on to say - "On Sunday, August 11th, a party of ten car-rying all the club's wordly possessions of rope and ladder stagger-ed up Marble Hill again, determined to 'finish' the hole. An under-ground party of six rigged pitch after pitch - then unrigged the upper pitches to provide ladders for the lower ones. Allan Keller was the only one to reach the bottom of the last shaft at - 580 ft. A horizontal passage narrowed into a very tight squezze before opening out into the unknown. Allan was soaking wet and had to call it a day. The party did not emerge until midnight, hence the name suggested for the hole."

Things were rather quiet preceeding the 50th issue but around that time, (September 1970) exploration on the upper levels of a cave, recently located in the Junee area north-east of Maydena, proceeded to a depth of 200 feet. All in all, this cave(JF 4-5) looked very promising.

In December 1970, the 53rd. Spiel revealed that major dis-coveries had been made by all Tasmanian clubs. An SCS party, in-cluding one of our members - Phil Robinson - broke the Australian depth record by bottoming Tassie Pot in the Florentine Valley. The northern branch of TCC found another entrance into Kubla Khan at Mole Creek and TCC members checked out an area of dolomite at Mt.Anne. Brian Collin and Bill Lehmann plumbed one 'big hole' and indicated a depth of around 400 feet.

Issue No.54 announced that the 'big hole' at Mt. Anne (offic-ially named Kellers Cellar) was descended. The entrance pitch prov-ed to be a 420 foot free ladder drop(another new Australian record) and the depth of the system was 510 feet. At Junee, the discovery of a new route by the first party in JF 4-5, enabled the second party to reach a depth of 648 feet. This cave was duly provided with a name which was destined to become a house-hold word in cav-ing circles throughout Australia!

KHAZAD - DUM !!!

On Saturday, 23rd, January 1971, a combined TCC-SCS team with the support of two mainland cavers and led by Phil Robinson set a new depth record by reaching a depth of 860 feet, at which point the party was stopped at the top of a 100 foot plus water-fall pitch. The following weekend saw yet another attempt and the editorial in Spiel No.55 read - Khazad-dum - now 970 feet deep!!

Spiel No.64 carried the following editorial -

"DUM'S DAY IS COMING!"

Excitement is mounting as D-day approaches. Next weekend (December 11,12th 1971) may be the climax of a lot of planning and preparation. Antarctic weather and heavy rain caused the cancella-

tion of the trip planned to Khazad-dum on the last weekend in November. Last weekend's attempt to bolt the waterfall pitches mostly succeeded -- but only just - as heavy rain had swollen the creek the night before. But by the time the advance party reached the waterfall pitch, the water had subsided sufficiently to allow further progress and four bolts were placed. Only two more are needed and they can be done on Dum's Day, provided the water is low. The telephones were tried out and excellent communications were established between the top of the 93 foot pitch and the streamway."

Then the February issue of 1972 proudly announced that -

"KHAZAD-DUM BOTTOMED AT 1020 FT.!

A New Australian Depth Record.

Our last chance before Christmas did come off. Out of the advance party of five, two bods reached the bottom at an estimated depth of 1020 feet, where the stream flows into a deep pond and siphons. For good measure the last pitch proved a spectacular 125 feet with the bottom 100 feet hanging free. Hopes of making Khazad-dum the deepest cave in the Southern Hemisphere or of finding an extensive horizontal cave system were not realised but the cave is by far Australia's deepest."(It was later established that the total depth was 1054 feet.)

In July 1972, Spiel No.70 carried another promising editorial.

"JF 14 - 700 FT. DEEP AND STILL GOING STRONG!!(Dwarrowdelf)

A gruelling 15 hour trip in JF 14 has pushed the cave well into the ranks of Australia's deepest caves. A laddering nightmare, an abseiling and prussiking delight - this cave will probably not be visited again using conventional laddering techniques. Six hundred and ninety feet of ladder yielded 700 feet of cave with the bottom pitch(so far) over 180 feet deep, free hanging and wet. Compared with this cave Khazad-dum is a picnic!"

Spiel No.75 sported another promising editorial.

"BREAKTHROUGH IN CAULDRON POT!!

A jubilant team of two has bypassed the talus blockage in Cauldron Pot to emerge in the stream passage at a depth of 400 ft. Cauldron Pot is now the major, probably the only, contender in the access to the Junee master cave stakes. Niagara Pot was the subject of a disappointing trip. Little prospect remains and the cave will certainly be forgotten while other chances exist at Junee."

The March 1973 edition(No.77) proclaimed that Cauldron Pot was now the second deepest Australian cave at 862 feet. Work in different areas went on - Maria Island revealed several small caves. Editorials were now turning to such things as cave conservation and cave reserves. Small discoveries were made at Surprise Bay on the South Coast, Scotts Peak and in an area known as the Cracroft.

Other areas to receive attention were the northern end of the Florentine Valley, the Junee and the western banks of the Florentine River. May of 1974 saw a renewed attempt on the holes above Exit and a meeting in July with the Minister for Tourism regarding cave reserves. In November of this same year, a reconnaissance expedition consisting of Brian Collin and Albert Goede proceeded to the Cracroft area prior to the big expedition planned for January - February of 1975.

Consequently, the 98th edition of the Spiel featured this editorial -

"Since the last Spiel, several exciting things have taken place. The Cracroft Expedition was a resounding success. The area proved to be much more cavernous than the leaders had anticipated

and instead of a trip to Mt. Bobs to fill in time, several exploration prospects were left unfinished. Despite a wet start to the trip and the higher water conditions which turned the near siphon in Judds Cavern into a true siphon, a team of four wearing wet suits passed through and explored another 1,000 metres of passage."

The club now has nine caves listed in the Cracroft area and further trips to this region will no doubt eventuate. The future? One can only speculate! The era of th "big caves" appears to be over, however, only time will tell. A recent trip down a section of the Florentine River by rubber dinghy revealed promising outcrops which have yet to be looked at and there are still some unexplored holes back towards the Junee. To find a cave takes time and a heck of a lot of scrub-bashing and without people indulging in this aspect of the sport, caves are just not found. Perseverance and persistence are great assests and sooner or later they usually reap rewards. So keep at it and perhaps the next 100 issues of Speleo-Spiel can provide equally good or better reading than the first 100 editions.

Laurie Moody.

TRIP REPORTS.

Exit Cave - 22-24 February, 1975.
Party: Andrew and Ros Skinner, David Cameron(TCC), George Bamford, Wayne Stephens + Toni, Phil Wilde and Russell Spencer(LSC).

The trip was a general familiarisation with the Launceston Speleo Club. Areas visted included the Western Passage, the Pendulum, Grand Fissure and Dribble System. Some shutterbugging was attempted. The last party in the cave(fron UNSWSS) has dug steps up the mudslope from the river to Inner Base Camp. This modification makes walking up the bank with billys of water much easier, but I disagree strongly with the principle of "improving" a cave for mere convenience to cavers. Growl!!

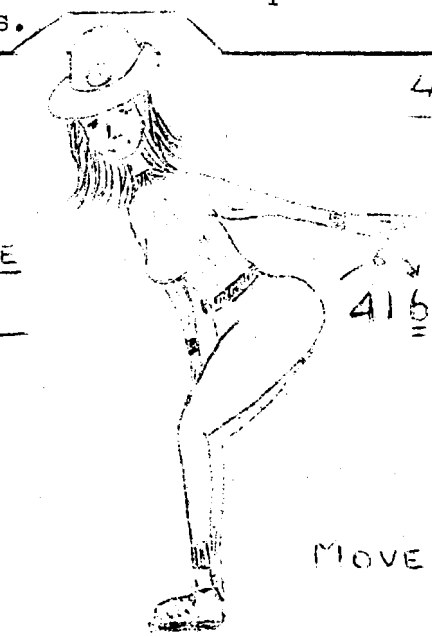
Andrew Skinner.

Mole Creek - 2nd March, 1975.
Party: Andrew Skinner, David Cameron(TCC), Hugh King(NC).

Soda Creek Cave was visited under very dry conditions. The cave is approximately 200 metres long and ends in a rockfall. In winter it is water-filled at the entrance. The stream issues from small cracks in the rockfall.

Lynds Cave was also visited. The rockfall mid-way through the cave was easily negotiated and the usual first siphon at the end was penetrable. The final rockfall was pushed, but with no result. The final siphon was not penetrable, even under dry conditions.

Andrew Skinner.



416 NOT 641

PLEASE NOTE — OUR CHANGE OF ADDRESS:-

Box 416,
P.O.,
SANDY BAY, TAS. 7005.

MOVE 6 TO THE REAR!

SPELEO-PALAEONTOLOGY

by PETER F. MURRAY.

Caves have contributed very substantially to our knowledge of past life history. The cave environment provides unusual circumstances for the preservation of plant and animal tissues. Most of our first-hand knowledge of the finer points of anatomy of extinct animals comes from the discovery of mummified remains of animals deposited in dry caves. Not only do we have information about the skin, hair and muscle masses of some species; we know a great deal about what they ate during life due to the preservation of their dung. Preservation is not the only factor in making caves one of the most important kinds of fossil sources. All of the suitable conditions for preservation would be of little value if it were not for the fact that caves collect bones.

NATURAL BONE COLLECTORS

Caves are probably the world's second best natural bone collectors. Based on the density of bone per area of matrix, caves would rank slightly lower than asphalt lakes. Never-the-less, asphalt lakes are rare and caves are not. Even small, shallow caves, often called rock shelters, may contain an accumulation of bones. There are many agencies responsible for the deposition of bones in caves.

We can explain the majprity of these bone accumulations. Caves and shelters are frequented by several species of mammals including predatory and non-predatory forms. Hyenas, bears, thylacines, Tasmanian Devils, African porcupines, possums and man are but a few examples of confirmed cave-users. Some of these animals die in their lairs but others are sometimes dragged in by scavengers and predators. Porcupines may be important collectors of skeletal material because they gain their supply of calcium salts by gnawing on bones. There is evidence that hyenas and other predatory scavengers such as Tasmanian Devils prefer to carry their food to their dens so as to concentrate on the laborious activity of bone-crushing. Mrs. Roberts(1915) noted that adults bring food into the lair for their young. Bjorn Kurten(1968) has suggested that the large number of cave bear(Ursus spelaeus) bones that have been found in European Upper Pleistocene cave deposits is due to their use of the caves for hibernation and birth shelters. Owls living in caves have provided one of the best records of small mammal palaeontology because the skeletal remains of their prey passes through the alimentary tract unscathed, well cleaned and neatly packaged for deposition(Davis, 1959). Man is the best documented bone accumulator. Our knowledge of Pleistocene mammal successions in Europe, Africa and North America has been largely dependant upon the poor house-keeping practices of cave dwelling, hunting and gathering hominids. Upper Pleistocene cave men have provided us with a virtual museum of palaeontology. Moreover, they illustrated many of the extinct species in a manner rivalling modern artistic skills.

Caves are also natural pit-falls. One of the most effective hunting methods employed by man is the use of a disguised pit-fall. Many caves have vertical fissures and chimneys leading to the surface. These openings are frequently obscured by vegetation and other natural debris and can prove hazardous to mammals, particularly to those which are active during the dim hours. Large dolines with precipitous walls tend to be less effective for trapping animals than the smaller shafts and sinkholes.

Caves may contain what palaeoecologists call a "thantocoenosis", or death-assemblage. A thantocoenosis is an accumulation

of the remains of animals that may have never been associated with one another during their lives. The animals died elsewhere and were brought together by geomorphological activities into the same deposit. Because caves are associated with the activity of water and sediments carried by streams, bones may be derived from different deposits having various ages and content to a single point in space.

The source or sources of modern debris, brought into caves by the activity of streams and other agencies would make an interesting study in this regard. It is an interesting and rather curious point that some caves contain considerable amounts of modern plant and animal remains but no fossils, while others may contain fossils but very little or no modern materials. The factors responsible for the rate of change in the deposition of plants and animals within caves is yet another mystery for the keen speleo-palaeontologist.

PALAEONTOLOGICAL WAREHOUSES

Caves not only collect bones, they store them for safe-keeping until they can be scrutinised by the speleo-palaeontologist. Like warehouses there are different kinds of environments for preservation. Limestone and dolomitic caves provide carbonate solutions for the preservation of bone. Extremely dry caves in the Southwestern portion of the United States, in parts of South America and elsewhere have yielded mummified remains of sloths: skin, hair and all; dung of various mammals and other rarely preserved odds and ends. Occasionally, fossil materials from caves may be protected from natural vicissitudes almost too well. Fossil collecting from the Transvaal Limeworks Caves in South Africa was carried out by Drs. Broom and Dart with the aid of strategically placed dynamite charges. This is not the dental-pick-and-paint-brush-school of palaeontology you normally read about. Another feature of the cave environment that is conducive to preservation is the relative constancy of temperature and moisture, or lack of moisture as the case may be. Bone exposed to alternating high and low ambient temperatures is subject to disintegration. Alternate wetting and drying will also result in the destruction of bone. Bones recently deposited in wet caves tend to be very soft, but otherwise well preserved. In times, bones become impregnated with calcium salts and other subsidiary minerals, such as iron. These fossils are very durable, often appreciably heavier, than more recently deposited bone. Unfortunately they are also very brittle when the moisture content within the bone is high and they most be handled with care. After the mineralised bones have dried, they become very hard indeed, but so too does the matrix of calcareous nodules and adherant calcined cave earth. We have found that a solution of weak acetic acid facilitates preparation of the material with less risk of damage than removal by mechanical means.

Caves contain other information of great value to the palaeontologist besides animal remains. Geomorphologists have become very skillful in interpreting cave deposits for palaeo-environmental information. There is a precarious balance of factors involved in the geomorphic process of cave formation. Any change in one of the variables of ventilation, saturation, CO_2 level, water condensation and precipitation or temperature, might affect the activity of the entire cave. Geomorphologists are concerned with materials derived from inside the cave, such as breakdown, roof fall and dissolved carbonates. Extraneous materials may wash in through cracks or enter through the cave mouth in the form of aeolian sediments. External deposits such as loess and stream sedimnnts may also be found in cave mouths(Butzer, 1964). Caves trap and preserve external deposits that would otherwise have been destroyed by subsequent geomorphologic processes on the outside. Disruptions in solution activity, increases in the rate of breakdown production,

evidence of mechanical, especially cryoclastic, weathering are all useful indicators for climatic change. Layers of broken stalactites piled horizontally on the cave floor and cemented subsequently by travertines suggest cryoclastic activity during a cold phase. The presence of angular clastic materials on the cave floor may also be interpreted as a cold or glacial phase of geomorphic process. Large caves are often so complex that a confusing array of processes may occur simultaneously. Cave soils may be oxidizing in one chamber and leaching elsewhere. Dripstone and travertine formation may occur locally, but not in adjacent chambers. Careful attention must be given to assess the balance of factors that can best account for the phenomena observed.

FOSSIL CAVES

Most fossil caves contain predominantly mammalian faunas of Pleistocene age. This is the so-called 'Ice Age'. The Pleistocene lasted from approximately three million to about ten to fifteen thousand years ago, depending on where you are and who you read. The rather wide latitude in dating the basal Pleistocene is due to the fact that the transition from the upper Pliocene to the Pleistocene is dated on the basis of faunal change. The Basal Pleistocene is marked by the presence of certain modern mammalian genera. In the Northern Hemisphere, the modern horse(Equus), the modern elephant(Elephas) and the primitive forms of modern cattle(Leptobos) make their debut at this time. In some ways, the beginning of the climatic oscillations for which the Pleistocene is noted, is incidental to its definition by geologists and palaeontologists.

The South African Limeworks Caves are located near the Transvaal River. They are filled caves that contain a succession of mammalian faunas ranging in time from the Basal Villafranchian to Middle Pleistocene. The complex fauna from these caves has been studied continuously since the 1920's. The caves contain numerous remains of the most primitive type of human known, Australopithecus. Many kinds of antelope, bovines, 'giant' pigs, 'giant' baboons, carnivores, rodents, strange kinds of giraffes, shrews and other extinct forms have been found. The work has been laborious and slow. The deposits are bone breccias, many fragments of bone cemented together by calcium carbonate in solution. C.K. Brain(1958, 1967) has done fascinating geomorphological studies of these caves from the standpoint of palaeoclimatology and how the animals were deposited.

Fossil caves in Europe are almost too numerous to mention or single out. Many of these caves were inhabited by man, the major cause of the bone deposits. Because most of the fossil materials from Europe have been recovered from caves, a great many of the animals recovered have the word 'cave' preceeding their common name. There were 'cave' lions, 'Cave' bears, 'Cave' hyenas and even a 'cave' goat,(Myotragus balearicus). Certain European caves have a very long sequence. Tornewton Cave in South Devon extends well back into the third glacial(Riss) period. J.L. Widger collected some 20,000 specimens of hyenas from the cave before World War II. The Hundsheim fissure was apparently a vertical shaft that formed a trap for numerous Pleistocene mammals. Joint Mitnor Cave at Buckfastleigh is another fissure deposit containing enormous quantities of bone in a large talus cone. Large numbers of bones were brought into the Torrs Quarry Cave, east of Plymouth by running water. The Drachenhöhle in Styria contains many specimens of the Pleistocene Cave bear. Numerous cave lions were recovered from Wierzchowska Cave in Poland. Cave lions are otherwise rarely found, even in cave deposits(Kurten, 1968).

At present, caves are the most important source for Pleistocene mammals on the continent of Australia. Australia is well-known for its unusual living marsupial fauna, but judging from the great variety of Pleistocene forms now known, the present fauna

is a greatly impoverished one. Australian fossil caves include Mammoth Cave, W.A.; Madura and Naracoorte Caves, S.A.; Wellington Caves, N.S.W.; and Buchan Cave, Vic. These caves contain late Pleistocene faunas including the so-called 'giant' forms characteristic of this time period the world over.

The largest of these 'giants' are members of the family Diprotodontidae. Several very large kangaroo-like forms apparently co-existed with the more typical kangaroos and wallabies. Procoptodon was a stoutly built, short-faced kangaroo nearly twice the size of a forester kangaroo. According to Tedford(1966), this animal persisted until near the end of the last glacial period(13,725 ± 350 years ago). Closely related Sthenurus was widely distributed in Australia until the close of the Pleistocene. Sthenurus was adapted for browsing in woodland and savanna habitats. Its disappearance from the open sclerophyll regions of Tasmania and other well forested regions in Australia is not understood. One of the most interesting members of this fauna is the marsupial 'lion', Thylacoleo. The marsupial 'lion' was about the size of a leopard. Its incisor teeth are shaped like canines, and its premolars are greatly enlarged, blade-like teeth ideally suited for shearing firm somewhat fibrous materials. The anatomy of the marsupial 'lion' demonstrates that it is closely related to the phalangers, the group that includes brush-tail possums and sugar-gliders. Experienced palaeontologists and anatomists have been very cautious about assigning a carnivorous role to this beast.

Until very recently, the only documented Tasmanian Pleistocene cave fauna came from Scotchtown Cave, located in the northwestern portion of the state. New information is forthcoming since Albert Goede reinvestigated some of the caves in the same region. These caves contain a great many individuals of large, extinct kangaroo-like forms, some of which can be assigned to the genus Sthenurus. The second record of the marsupial 'lion' in Tasmania has also been recovered. Other tentatively indentified species include another type of Sthenurus, and certain forms closely related to the modern forester kangaroo. Many fossil wombats, wallabies and bandicoots are also present in the assemblage.

Speleopalaeontology is yet another fascinating aspect of caving. As more fossil localities are discovered we will be able to find out more about the fascinating life of the past in Australia. It is quite possible that these holes in the surface of the ground contain just the information to fill the gaps in our knowledge.

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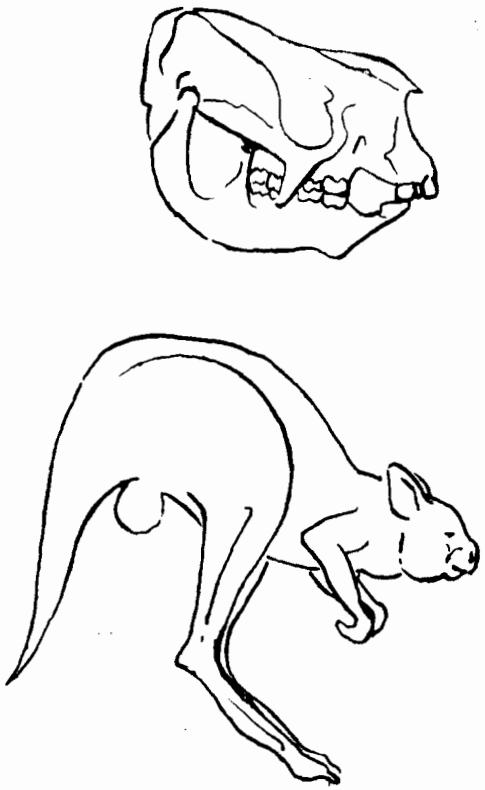
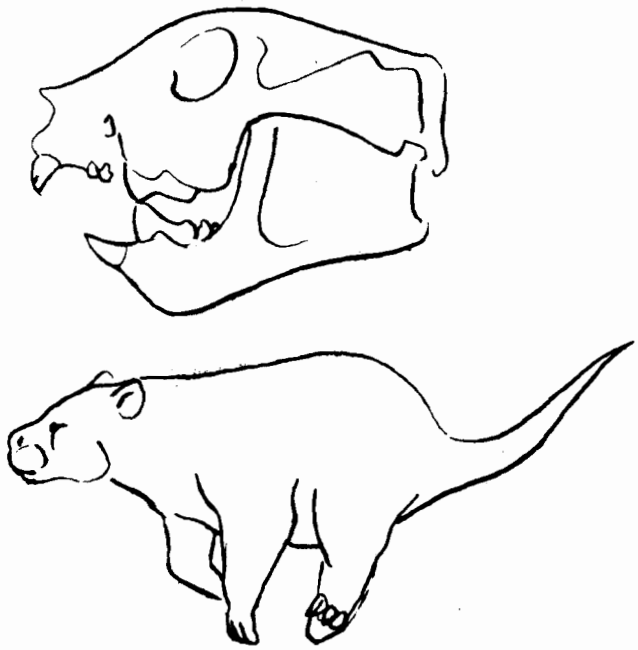
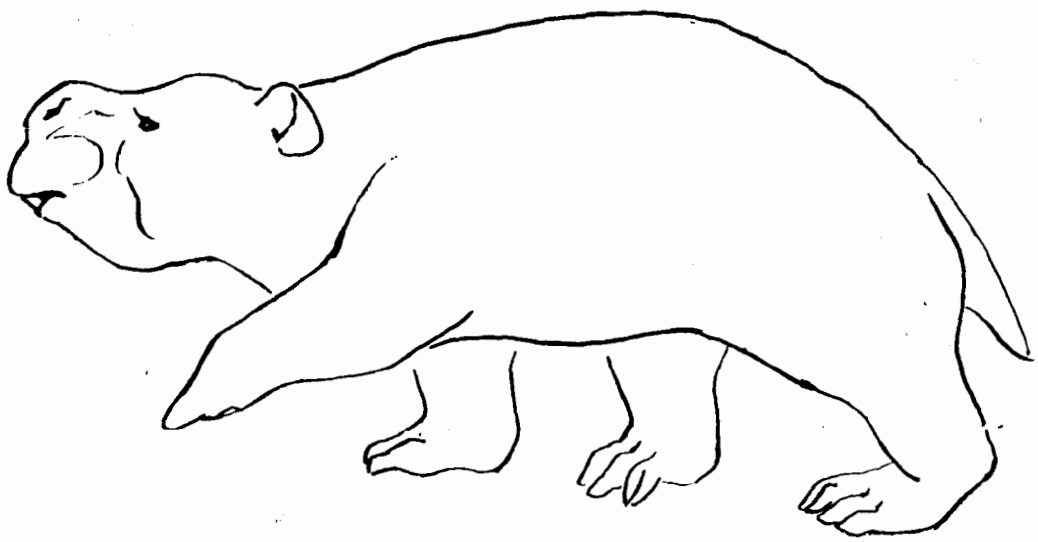


STHENURUS SKULL AND RECONSTRUCTION



THYLACOLEO SKULL AND RECONSTRUCTION

DIPROTODON SKULL AND RECONSTRUCTION



PLEISTOCENE FOSSIL MAMMALS FROM CAVES IN AUSTRALIA

Part 2 - Cracroft Expedition - The Next Three Days.

by Albert Goede.

Tuesday, 28th January - As the stream level continued to fall a large party entered Judds Cavern at 10.45 a.m. At the sump the courlene rope and telephones were made ready for the diving party. Attila went through first and found no air space for about 1.5 metres. He was followed by Peter Shaw, Brian Lefoe and Peter Downes.

As they set off to explore the unknown, most of us went to the dry section to have a look at the supposed dig. Jed climbed up and rigged a double rope. A low-roofed tunnel was followed for a short distance then the floor dropped downwards into a floor collapse. The draught was followed into a tunnel going off to the right. This passage crossed a fissure down which a stream passage with a small trackle of water could be seen. On the right hand side part of a false floor was removed to gain access to the stream by means of a three metre rope pitch. The draught seemed to have disappeared and the passage was blocked by talus in both directions. At the upstream end one could climb up through the talus to a point where the stream could be seen again through a narrow fissure. At this point Jed and I were reached by Bob Woolhouse who had continued the crawl along the tunnel. Work with a geology pick enabled me to widen the opening down to the stream. A small stream passage with large amounts of dissected cave fill and 'Maclurites' fossils in the limestone, continued for about 20 metres before terminating in a small chamber with a shallow pool and water pouring in through the roof.

We retreated and found that Bob, by chasing the draught, had discovered a tunnel leading off above the 3 metre rope pitch. This emerges 1.5 metres above the sloping clay floor of a double aven. Just around the corner a small trickle of water runs down a steeply inclined fissure. It is feasible to chimney upwards for about 8 metres before it becomes rather tight. It then seems to open out again. Definitely a prospect only for an expert climber. The strong draught indicates a probable surface connection.

We then returned to the sump where Brian and party were still on guard. So far they had waited about two hours. Four of us went back to camp having arranged a changing of the guard at 5 p.m. We re-entered Judds Cavern at 5 p.m. to meet Brian's party and the divers(minus Attila) on their way out. The divers had found approximately 1,000 metres of passage past the sump doubling the known length of the cave. Peter discovered an upper level which led to a daylight hole about 20 metres up (King Billy Hole). Attila succeeded in climbing out despite his shorty wet suit.

We arrived back at camp at 5.30 p.m. A rather hot and bothered Attila arrived 15 minutes later and jumped into the stream to cool off. On emerging from King Billy Hole he had found himself looking out across the buttongrass plain and had blazed a rough trail to connect with our access track. A very successful day.

Wednesday, 29th January - Everyone made a late start. Bob Woolhouse, Carey Handfield and myself surveyed the red track to where it meets the main track. We finished at 4 p.m. and were back at camp an hour later.

Brian Collin and party numbered Matchlight Cavern(C 2) and explored and numbered the blue and red taped holes beyond(C 3-C6) with short descriptions of each recorded by John Taylor. John descended C 6 and found a Thylacine skeleton. He collected the skull but it was broken on the way back to the surface. Only the lower jaw and parts of the upper jaw were brought back to the camp. Skull Cave(C 7), discovered by Attila and party two days earlier was numbered and visited next but the continuation could not be found.

Attila with a large party went searching for Draughting Hole but was unable to find it. They did find and explore a 45 metre deep shaft due south of the big sinkhole and marked it with double blue tape with knotted ends. They also found a creek going underground nearby. Another hole, with a draught, was found SSW of the big sinkhole but was too narrow to enter.

The afternoon was spent surveying from the end of the red track to the entrance of King Billy Hole. Several holes were noticed close to the track to King Billy Hole. One had a draught and consisted of a crawl followed by a drop. None were explored. The party returned to camp at 7 p.m.

Thursday, 30th January - Four parties went out today. Peter Downes and Carey Handfield went into Judd's Cavern and through the sump to survey the new cave beyond. Peter Shaw and I left camp about 10.30 a.m. and descended King Billy Hole at noon. I took numbering gear but forgot the numbers. The gear was left at the entrance for the next party to use. We met the survey party as soon as we reached the stream passage. We then tried pushing a number of exploration prospects but without success. We went back to the entrance where I did some fauna collecting while Peter assisted the surveyors with the last few legs. The dry passage to King Billy Hole is large and contains considerable quantities of old stream gravels. The limestone is shaley and thinly bedded and there is very little formation. We came out with a single jumar. Back on the surface at 4 p.m. and back at camp at 5.10 p.m.

Brian Collin and Attila Vrana spent the day locating and marking a route to Draughting Hole. The marked route leaves the main track a short distance downhill from the big leatherwood tree. About four hours were spent in the cave chasing a strong draught. About 130 metres of dry passage were explored - quite pleasant caving. Further prospects are either a substantial dig to follow the draught or a 13 metre pitch in the floor.

The fourth party consisted of Bob Woolhouse, Jed Butler, Brian Lefoe, Neil Hickson, John Taylor and Mike Martyn. Mike reported that they left camp at 11 a.m. and proceeded up the Red Track to Matchlight Cavern turn-off and surveyed down the blue track to the cave entrance. Many photographs were taken (approximately 5 films between 6 bods). Neil investigated three pitches in the floor(marked 20, 10 and 15m. on map) but all of them ended in chokes. They discovered another section with flowstone walls and Mike climbed a hairy 10 metre pitch to discover another 30 metres of passage. They came out at 4.30 p.m. and while Bob, John and Brian continued surveying, Neil, Jed and Mike went to Skull Cave (C 7). While Jed returned to the others Neil and Mike went straight down the unexplored 10 metre drop (15 metre pitch) to find the cave choked off. They returned to the surface and decided that the 10 metre entrance pitch was the grottiest encountered on the trip. Camp was reached at 7.20 p.m. Meanwhile the survey party had surveyed up to both C 6 and C 7 and had returned to camp at 7 p.m.

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REMEMBER --- REMEMBER --- REMEMBER --- REMEMBER ---

WE HAVE CHANGED OUR BOX NUMBER TO:

TASMANIAN CAVERNEERING CLUB,
BOX 416, P.O.,
SANDY BAY,
TASMANIA, 7005

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SPELEO SPIEL NO.100