

# AUSTRALIAN CAVER

No. 154

Autumn 2001

ISSN 0817-8240





Ceiling decoration (Organ pipes) Dip 1 - Wee Jasper



## Coming Events

15<sup>th</sup> - 22<sup>nd</sup> July 2001 is the time for the **13<sup>th</sup> International Congress of Speleology**, Speleo Brazil, Brasilia, Brazil. <http://www.speleobrazil2001.org.br> .

Keep Saturday 8<sup>th</sup> September free for a day of fun in Sydney at **“Trog-Up 2001”**, including **SpeleoSports, Trash-In** and the **Cavers’ Dinner**.

**1<sup>st</sup> Mexican Congress of Speleology “OZTOMEXICA2001”** to be held in the City of Orizaba, Veracruz, Mexico from December 26 to December 29, 2001. For further information check our website at [www.oztomexica.8k.com](http://www.oztomexica.8k.com)



**Australian Caver  
Issue Number 154  
Autumn 2001  
Edition**

Editor  
Geoff Crossley



"Australian Caver" is published quarterly in the months of February, May, August and November by the Australian Speleological Federation Incorporated.

PO Box 388, Broadway, NSW 2007

[www.caves.org.au](http://www.caves.org.au)

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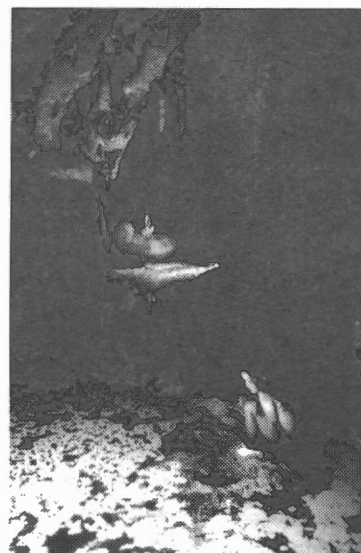
**Apology:**

It is with regret that the pictures of Queens Pinch displayed inside the front cover and on the back cover of issue 153 were incorrectly attributed to John Dunkley. Those photographs were taken by Peter Dykes. The Editor sincerely apologises for the incorrect acknowledgement.

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**Front Cover:**



"Kimberley  
Dreaming"  
by Stefan  
Eberhard.

(This photograph  
earned 1<sup>st</sup> place in  
division 4 in the  
competition held  
in conjunction with  
the ASF  
Conference.  
Stefan also won  
the ASF Cave  
Photographer of  
the year with his  
portfolio.)

The "Edie Smith Award" is now considered to be one of the most prestigious awards in Australian speleology. The award aims to

- Perpetuate the memory of Edie Smith, and
- Give recognition to those who have made an Outstanding contribution to Australian speleology.

The question addressed here is.

## Who was Edie Smith?

Norman Poulter OAM

Speleological Research Group Western Australia Inc.  
and

Dr Albert Goede

Southern Tasmanian Caverneers Inc.

have pieced together much of the answer and an abridged version of the paper presented at the 23<sup>rd</sup> ASF Biennial Conference in Bathurst NSW, December 28, 2000 - January 3, 2001 is provided here. The full paper may be found in the Conference Proceedings and special limited edition copys are also held in the ASF Library and Australian National Library

In August 1967, Edith Smith died. A short time later, during an Australian Speleological Federation [ASF] committee meeting in Orange [NSW], a resolution established the "Edie Smith Award".

The Award is now considered to be one of the most prestigious in Australian speleology. On average, only one Edie Smith Award is conferred per year, with presentations made every two years, during the course of an ASF Conference.

At least three speleological features have been named in her honour, Edie's Treasure in Tasmania's Exit Cave, Edie's Grotto and Edie's Tunnel in the Punchbowl and Signature Caves at Wee Jasper in NSW.

The first presentation of the Edie Smith Award took place during the 9th. ASF Conference [NIBICON] in December 1972 when Dr. Aola Richards and Ted Lane received an award for their joint editorship of "Helictite" since its inception in 1962, which had by that time, achieved international acclaim as one of the world's top five speleological research journals.

Over the years, the preamble to the presentation of the Edie Smith Award has been embellished to include the facts that she had been "...a pioneer of Australian speleology, a life member of the Tasmanian Caverneering Club and the first woman president of an Australian speleological society, the Canberra Speleological Society."

Why was Edie considered a "pioneer"? What had she done to motivate people to name bits of cave after her during her lifetime or shortly after her death? What

contribution could a person have made that warranted the creation of a prestigious national award when she was possibly only well known in one state and territory? Who was Edie Smith?

This biography itself has been pieced together from scant published material and recollections - both personal and anecdotal. It is by no means complete.

Edith Margaret Smith was born at Forth [about 9km SW of Devonport], northern Tasmania on 14th August 1913, daughter of Salina Kathleen (nee Carruthers) and [Major] Ronald Edgar Smith. She had a younger brother, Ronald - and later, two half-brothers. Edith's mother died of cancer at the early age of 28, shortly before her husband could return on compassionate leave from World War One. Edith was then a little over three years old. Her brother Ronald and one half-brother (Charles), outlived both Edith and her father.

James "Philosopher" Smith, Edith's grandfather, was a noted mineral prospector in western Tasmania whose principal achievement was the discovery of the world's richest deposit of tin at Mt. Bischoff in 1871. Her father Ronald [1881-1969] was also born in Forth and is probably best known for his interest in the Cradle Mountain region and friendship with Gustav Weindorfer who built the Waldheim Chalet near Cradle Mountain in 1912. "The Major" was also a local historian and spent part of his latter years sorting and indexing his father's records.

Virtually nothing is known of Edith's early life except that she grew up around Forth and the family property across the valley from Waldheim. She was educated in Launceston and at the Collegiate College [Hobart], became an active member of the Girl Guides and after completing her education, was employed as a governess on properties in rural Tasmania including a period with the Shoobridge family at Bridgewater, now an outer suburb of Hobart. As far as is known, only two photographs survive of her during this period, these were taken by her father near their beloved Cradle Mountain during March 1939 when Edith was 26. [Plate 1]

In late 1939, the world went mad as the European, and later the Pacific, war erupted. With little hesitation, Australia joined the fray. Whatever the reason, patriotism, opportunism, or perhaps a bit of both - Edith, like thousands of other Australian women and girls seized the initiative, threw her old life aside and began another.

Edith enlisted as an airwoman in the Women's Auxiliary Australian Air Force in Hobart on March 27, 1942. Normally camera-shy, Edith had to face the camera for the obligatory "mugshot" and, despite the contrast, graininess and backdrop of the time, the resulting picture is probably one of the best portraits ever taken of her. Looking to one side of the camera, Edith seemed to be facing the future with a certain amount of apprehension. Thus Aircraftwoman Smith, Edith Margaret, #92151 was inducted into Australia's



war effort and less than two months later found herself posted to Victoria as a cook.



Edith and her father at the most northerly of the three passes through Rigg's Wall on the Cradle Mountain Plateau. March 28, 1939

Copied from stereo pair #SK284 by Major Ronald Smith



At the direction plate on Cradle Mountain. March 26, 1939

Edith and Major Smith, Sam Watson, John Braid, George Carey, Allison Morris

Copied from stereo pair #SK279 by Major Ronald Smith

### PLATE 1.

In May 1944, Corporal Smith was posted to Ascot Vale, [near Perth] Western Australia where she undertook a cinema operator's course. This new role ultimately took her to air force bases located in areas such as the wheatbelt town of Merredin and coastal

port of Geraldton. Edith's service with the RAAF ended with her discharge at the end of November [29th] 1945. However, it was a very different Edith, civilian, who arrived back in Tasmania a short time later. With a matured and liberated outlook on life, Edith faced the post-war world with renewed vigour, confidence and determination. Gone were the days of being a lowly governess! At the age of 32, Edith resolved to make something of herself!

At the beginning of 1946, Samuel Warren Carey [of wartime "Z" Force fame] became the foundation professor of the recently re-established Geology Department at the University of Tasmania. During September of the same year, Professor Carey founded the Tasmanian Caverneering Club [TCC] the membership being drawn mostly from the University's Geology Department, Tasmanian Field Naturalists Club and the Hobart Walking Club. TCC thus became the first organized speleological society in Australia.

During 1947, armed with a scholarship under the Commonwealth Reconstruction Training Scheme, Edith, no doubt following an interest in geology instilled by her famous grandfather, enrolled in a science course at the University of Tasmania, taking her first formal instruction in crystallography "in an old cottage with a sinuous floor." She completed her BSc degree, majoring in geology and zoology in 1949 and graduated in 1950. During her studies and being amongst people engaged in speleological pastimes, Edith herself was drawn into their activities and became a member of TCC in 1948. After her graduation, she continued working for the geology department as a research assistant, studying Tasmanian Permian bryozoa. Edith also worked for an unknown period between her graduation and 1955 with the Tasmanian Department of Mines.

As one of the few female members of TCC, Edith blossomed in what was to become Tasmania's golden age of speleological discoveries. What she lacked in stature and stamina, she made up in sheer drive and determination.

At Hastings [south of Hobart], the downstream sections of Newdegate Cave, which included the Binney Chambers, were originally explored via a sump that was rarely dry. The Binney Tunnel, in which Edith played a major role, was dug between 1948 and 1951 to provide an all-weather access to the Binney Chambers. The project was successful but did not however, lead to any major discoveries.

As a result of her geological and zoological training, Edith developed a keen and long-term interest in the fossils, bone deposits and fauna found in caves. It was around TCC campfires that Edith developed her legendary recital skills and recollections of her famous grandfather. Albert remembers that she ".. was a proud Australian and interested in poetry. On caving trips when sitting around the fire at night she

used to read poems by Banjo Patterson, Henry Lawson and Rudyard Kipling."

Taking advantage of her acknowledged organizational skills, TCC elected Edith to its committee from 1951 to 1953. In 1953 she became treasurer and in 1954, vice-president.

In 1955 Edith accepted a position with the Bureau of Mineral Resources [BMR], in Canberra. The Bureau had recently lost many of its personnel to the private sector due to the beginning of Australia's first "mineral boom". The BMR is now known as the Australian Geological Survey Organisation [AGSO].

Edith resigned her vice-presidency at a TCC committee meeting during August and such was her standing [within TCC], they elevated her to Honorary Life Member then and there, the first member of the club to be so honoured..

A short time later, Edith, set sail for Canberra. If the previous few years had been TCC's golden age of discovery and Edith's blossoming as a speleologist, the following five years would see her attain seemingly legendary status, dimmed only by the fading memories of the few remaining long-term members of CSS and the dispersment and passing of former CSS members and BMR colleagues who knew her.

Edith arrived in Canberra and took up residency in the Hotel Acton, a government hostel on the edge of what was to become Lake Burley Griffin and where pets were forbidden. It is known that Mutch spent most of his time inside with Edith both here and at her subsequent "pet free" residence, the Currong Flats.

Edith started her career with the Bureau of Mineral Resources [BMR] as a stratigraphic indexer, embarking on "her pioneering work on the index of stratigraphic names, when it was an index of 3 x 5 inch [75 x 125mm] cards." This index still exists! The library was then housed in a wooden Army hut. She also went on to compile summaries on the sedimentary basins of Australia and the Lexicon [dictionary] of the Stratigraphic Names for Tasmania and subsequently Queensland, Victoria and Western Australia. After some spirited internal wrangling, she was allowed to join CSS, becoming their first female member, although several more would swell the ranks soon thereafter.

Shortly before Edith's arrival in Canberra, CSS had made its first foray [October 1955] to Wee Jasper, a small caving area situated some 45km WNW of Canberra requiring a journey of approximately three times that distance to reach by road. Here Edith was to later spend a lot of time working with the late Joe Jennings and other members of CSS in the exploration and surveys of a number of caves, especially the Dip and Punchbowl Caves.

Some of Edith's early energies at Wee Jasper during 1956-57 were spent digging in Dogleg Cave, a dangerous cave prone to flash flooding. A lot of digging was frequently undone when flooding refilled the dig sites. The Second Watertrap was eventually opened for a brief period during a dry spell in late 1957 and Edith was one of the few to explore beyond before yet another flood filled the traps. On another trip to Wee Jasper during June 1957, it was Edith who found the long sort-after connection between Dip 4 and 5. That wrote Joe Jennings, "was an exciting moment!!" [Plate 3]



**PLATE 3**

Edith with her beloved dog Mutch, at Wee Jasper, New South Wales  
circa 1959-60

Photographer Unknown

At some stage during early 1957, Edith visited the Naracoorte caves [South Australia] in company with Elery Hamilton-Smith, then secretary of the fledgling ASF. While at Naracoorte they met up with Jim Cartwright, whom she had met before leaving Tasmania, now joined by his brother Don, who was also on a world-wide working holiday. The encounter took place in a cave where Edith caught one of the brothers [presumably Jim] running his hand up and down a stalactite. In an early example of active conservation, she hit him quite hard on his helmet with her geological hammer whilst saying "Now I hope you'll remember not to touch decoration!"

Of all Edith's exploits, perhaps she is most widely known for the excavation through the rockfall between the eastern end of the Pitch Chamber of Punchbowl [Cave] and lower level of Signature Cave, an initiative of CSS members Jim Webb and Don Fitzsimon. The passage, approximately 10m long, was dug during 1957-58 and greatly facilitated



exploration of Punchbowl, which prior to that, was only accessible by a vertical entrance. This connection attracted numerous names throughout its lifetime ranging from simply "The Tunnel", "Edie's Squeeze" to "The Dame Edith Smith Memorial Highway". The link greatly assisted David Purchase with his research into bat migration and Edith's zoological and exploration interests. Bone deposits were to be found in sediments throughout Punchbowl Cave and Edith, often accompanied by Barbara Ryan, sifted the dirt and methodically recorded her finds. While continuing the survey work in Punchbowl Cave, Edith undertook another dig in a passage beyond the Far Chamber and broke into a small chamber now known as "Edie's Grotto". Her survey traverse and outline plan of Punchbowl Cave was completed shortly before she left Canberra.

Edith was drawn to people affected by family disruption. This has already been shown by her "adoption" of Albert Goede and his family in Tasmania following the death of his father. In Canberra, she "adopted" Ron Galbreath [amongst others] when he arrived from Tasmania during 1958 and moved into the Hotel Acton prior to beginning work at the Mt. Stromlo Observatory. By the time his family arrived three months later, she had already introduced him to caving at Wee Jasper and then promptly took the rest of the family "under her wing" and introduced them to caving too!. But Edith seemed to have a special affinity with children, and "was renowned for her expertise in leading groups of school children through the caves".

By 1958 there were several female members of CSS although, still being a relatively small club, its affairs were conducted in a casual, simplistic and most enjoyable manner. [Plate 4] As a person who disliked formality, Edith vigorously opposed CSS having a constitution, a situation that existed until long after she returned to Tasmania. Having already served in several committee positions with TCC, there was no great surprise when Edith was elected president of CSS. "We are quite satisfied that no club member thought it significant that Edie or any other woman member should be president, nor would it have made any difference to the club had we been told we had the first woman president of an Australian caving club. This is not to detract from Edie's personal significance in our club - she was indeed a driving force, respected, trustworthy and liked by all. She was able, totally reliable, unselfish, never afraid to speak her mind, and even-tempered. She was our mate!" Edith also played an "important role in simply bringing CSS together. She was outgoing and personable - she was very patient with people." As ground-breaking as her appointment was, Edith only served one term as president although she went on to become secretary in 1960.

Edith briefly returned to Tasmania in December 1958 as an attendee of the 2nd. ASF Conference, held in Hobart. Her visit was memorable not for the

Conference itself but rather for what happened immediately after. In what was to become a classic five-day, post-conference field trip to Exit Cave with Edith as co-leader, the party not only spent two days trying to find the cave, but another two thrashing their way back through the dense vegetation to civilization! Only one day was spent in this magnificent cave.

During 1959, Edith became concerned about the despoliation of popular picnic sites around Canberra and started a cleanup campaign that pre-dated similar efforts of Ian Kiernan [Clean Up Sydney Harbour/Australia/World] by some 30 years.

Contrary to many accounts published between 1967 and 2000 in the "ASF Newsletter", its successor, the "Australian Caver" and no doubt elsewhere, Edith did not remain in Canberra until 1963. According to the "ASF Newsletter" #12 "The Very Latest" #7 and personal recollections of David Purchase, Edith, whose position within CSS was whimsically listed as "Tunnelling Officer - Edith Human-Mole Smith" at a time when the society had only one "ordinary member", left Canberra in mid-1961. The position of "ordinary member", another whim, was usually voluntary in order to facilitate periodic co-opting.

During the latter part of 1960, Edith applied for an appointment with the Tasmanian Department of Mines and was obliged to undergo a medical examination. This examination revealed that she had breast cancer - at a time in medical history when the survival rate from any form of cancer was not exactly high. Edith underwent mastectomy surgery at the Canberra Community Hospital [Canberra's only hospital at the time] shortly after. Only her closest friends knew that she had undergone this emotionally and physically painful surgery. But in Edith's case, this surgery proved not to be curative. As she recovered from her operation Edith learnt that her application to the Department of Mines was successful and so made preparations with assistance from the Youngs and others, to leave for Tasmania.

Back in Tasmania, Edith - now classified as a geologist, which pleased her greatly - began work as a publications officer for the Mines Department in Hobart. However, according to Albert Goede, she was rarely well enough to go caving again. To further add to her woes, sometime during 1964-5, Edith was diagnosed as suffering from adrenal cancer which, following an adrenalectomy - meant taking cortisone for the remainder of her life.

The records of TCC are virtually non-existent for this period of the 1960's, so there are few written accounts of Edith's movements. One confirmed appearance was at the marriage of Albert and Therese Goede in February 1964. When Edith returned to Tasmania, in keeping with her love of children, she recorded stories for the blind children of Hobart up to the time of her death. The last one

was reputedly a rendition of Norman Lindsay's "Blinky Bill".



#### PLATE 4

Edith at Wee Jasper during a CSS "all girl" caving trip, Autumn 1960

Present Left to Right

(standing) Barbara Ryan (nee Kent), Sally ?, Edith Smith, with cup  
(seated) Jenny Aujard (nee Castlehow), Judy Fitzsimon (nee Bell)

© Barbara Ryan

While in relatively good health, Edith was involved in digging a tunnel in Junee Cave [near the town of Maydena], one of the major resurgence caves that drains the Junee-Florentine Valley. The tunnel was attempting to bypass the cave's sump but was unsuccessful. The sump has since been penetrated a short distance by diving, breaking into open passageway.

During 1965, she took part in the trip to Lune River that began cutting the long-awaited low-level access track to Exit Cave. The track ultimately passed through dense forest, sword-grass plain, swampland, crossed streams and utilized overgrown timber fellers' tramways before reaching the cave - but Edith was to see little of this. With dogged determination, she led the party into the bush until she was utterly exhausted. "It left her grey with fatigue and she almost collapsed," wrote Goede. Edith took no further part in the project although she maintained a keen interest in the track's progress. The completed track provided quicker and easier access to the cave and Edith rejoiced, as best she could, with other members of TCC at news of each exciting discovery.

On what became known as "Black Tuesday" in February [7] 1967, the southern part of Tasmania endured one of the worst bushfires ever to be visited

upon Australia, rivalling that of Victoria's 1939 "Black Friday". The wildfires penetrated the suburbs of Hobart to within 3km of the city centre with winds of 160kmh and moved across a front of 145km further south down the East Coast. Before the fires were brought under control, 62 people had lost their lives and more than 4,000 made homeless. The devastation south of Hobart was immense, with eight towns almost completely destroyed. The relief effort required was just as immense, and Edith responded too, loading her vehicle with groceries, spare blankets and clothes and distributing them amongst the affected residents of Kingston and other southern towns.

A few months before her death, Edith committed herself to leading a party of scouts on a cave introductory tour of King George V Cave at Hastings. Why she did this, given her deteriorating health, is unknown. Perhaps she was merely refusing to give in to the attack from within. As Joe Jennings was to aptly write shortly after her death "If she urged anyone on to more effort, it was chiefly by example, not by precept."

Shortly before her death, about ten members of CSS managed to set up an inter-state teleconference call of questionable legality in order to cheer their friend's disposition. Imagine their dismay as they tried to explain to an angry Edith the reasons behind the closure the previous year of her precious tunnel, connecting Signature to Punchbowl Cave. Eventually Edith calmed down as she realized the damage that was being caused by casual cavers using the tunnel to enter the Punchbowl caverns. However, all too soon the allotted time was up and this was the last contact they had with their caving friend.

Edith's condition steadily worsened as the cancer spread further through her body although she doggedly continued with her work, refusing to give in to the pain and lethargy sapping her strength. Indeed, the 1968 Departmental Bulletin of the University of Tasmania's Geology Department revealed that she was still working on the morning of her death. Edith Margaret Smith died of cancer on the 29th of August 1967 at the home of a friend in Launceston. She was just 54. As was her wish, her body went to medical science.

A month after Edith died, a small, well decorated side passage discovered in Exit Cave the previous March, was named Edie's Treasure in her memory. A commemorative plaque was installed soon after. One of the most rewarding aspects in researching this biography of a person who died more than 30 years ago, was the receipt of many unsolicited but glowing testimonials to Edith's professionalism, both geologically and speleologically. Two, by former colleagues of the Tasmanian Department of Mines are of particular relevance to Edith's nature and so are recounted here at length, "... Her time was mainly



spent on editorial duties and she was responsible for publication of all the department's technical reports and bulletins for the 1961-67 period. .. I spent some time during slack periods as a cadet officer organising the foreign language collections at her request. These had never been catalogued and in her absence were not even recorded. She felt I could learn a lot [I did] as well as arrange the collection. She took a great interest in those of us who were new and young geologists and worked mightily to see we improved our language skills. All those who had to slide a document past her could attest to her skills, pedantry and knowledge. We all managed an argument at some stage but always without acrimony and with a sense of involvement and fun. Her wide experience and knowledge was always apparent and she commanded great respect and affection. She was, often, brutally frank but honest and was a fine teacher. I have never forgotten her, or her kindness.

[Dr David Leaman said] "I knew Edith was ill and often in great pain in her last few months as we worked through two bulletins of mine. She never spoke of it, never gave in to it and insisted upon business as usual with the same spirit."

"I first met Edith Smith when I joined the Tasmanian Mines Department as a raw honours graduate from the University of Tasmania in early 1962. I had just finished my honours on the "Structure and Petrology of the Raglan Range", and the Geological Survey, then under the direction of the late Ian Jennings, decided they would like to publish it as a Bulletin. I was told that the document did not require technical review, but just to get it ready to submit to the Editor Edith Smith. I was aware she had a reputation of being a willing but tough editor who had the habit of slaughtering people's poor manuscripts.

I did a literal cut-and-paste job on the thesis [no word processors in those days], had it re-typed, and proudly gave it to Edith. I recall she beamed a little wryly when presented with the document, and said something like "I will work on it young man, and then get back to you."

Two days later she summonsed me and said "This is a pretty good manuscript, but let me show you how I have made it better." The manuscript was copiously covered in red, where the editor's scalpel had been at work, but not to the extent of major surgery. She demonstrated the techniques of putting polish on a manuscript - such as pruning unnecessary words, avoiding repetition and ambiguity, crafting good sentences, and structuring logical paragraphs to produce a manuscript that was both appealing and satisfying whilst still engendering a personal style. I greatly appreciated her approach. She was a consummate writer herself who led by example. That mentoring served me well throughout my career. I have gone on to write many geo-scientific articles that happily did not attract the editor's incisions in every sentence. I have edited

manuscripts of other aspiring writers, and have imparted the wisdom of Edith to my geologists - who have appreciated it to the same extent that I did.

In about 1960, Edith also compiled the *Lexicon of Tasmanian Stratigraphy* - a booklet that collated and defined all the formally defined stratigraphic names and terms according to the new draft of the Australian Code of Stratigraphic Nomenclature. She was the custodian of Tasmanian geo-nomenclature, and all later writers still conform to those procedures. [Dr. Gee, Director of the NT Geological Survey], whilst recently reading Rick Wilkinson's "Rocks to Riches" came upon a reference to Edith's stratigraphic lexicology work in the 1950's."

## EPILOGUE

And so Edith Margaret Smith died in 1967 but, as shown above - in many respects she lives on. She was a pioneer in Australian speleology and conservation as well as being the first woman president of any Australian speleological society. In many respects, she was also a pioneer feminist, before the term was really coined, pushing open doors never before opened by women, and before there were feminists to follow her through. But has she or the award named in her memory been treated well in the intervening years? In some aspects Edith and the Edie Smith Award have not been treated with the respect they quite rightly deserve. Indeed, it now seems likely that those who championed the creation of the Edie Smith Award and the accepting ASF executive of the day, neglected to inform her immediate family of their resolutions. [Smith]

When Edith died, she seemingly slipped into obscurity almost straight away. Certainly an obituary was published in the *Speleo Spiel*, *The Very Latest* and the ASF Newsletter shortly after the event [albeit inaccurately] but once the Award was established during 1968, mention of her quickly faded. Why was this? Could it have been that she died of cancer at a time when cancer was an almost taboo subject throughout Australia? Or was it a generational thing? Old stalwarts fading away to be replaced by younger members who had little or no knowledge of Edith Smith or what she represented? They in turn being replaced by even younger members with absolutely no knowledge or interest of past events.

As has been shown, CSS, taking pride that Edith was their first female president, and the first female president of any speleological society for that matter - forgot - and forgot quite quickly it seems - that they had also elevated her to honorary life membership back in 1961. With the publishing of CSS's 40th. Anniversary issue of the "The Very Latest" [Vol. #11] in 1994, Edith - and Dr. Joe Jennings [himself another great speleologist] hardly rated a mention, and then, only in trip report summaries.

**And what of the Award itself?** By association, the Edie Smith Award suffered a similar fate - at least until fairly recently. Disdain may be too harsh a word to describe presentations of earlier times but certainly the Award and some of its recipients suffered a certain amount of indifference, especially when there was little or no tangible evidence of an award being made.

But, despite its past treatment, the Edie Smith Award has prevailed. It HAS become one of the highest accolades in the speleological community and to be placed alongside previous recipients and Edith Smith herself is a great honour indeed.

And yet, resurgence of interest does occur. Periodically, the question IS asked - "Who was Edie Smith?" But who could provide an answer? The details of the life of Edith and many of her equally deserving contemporaries were, and in many instances still are, locked away in numerous libraries and recollections in various parts of the country and indeed, the world, effectively lost to everyone until people take the time and effort to probe, collect and collate the material into meaningful and presentable text.

As mentioned earlier, this biography of Edith Margaret Smith is incomplete, it may always remain so, but hopefully, it has at least gone part of the way to answering that question: "Who was Edie Smith?"

\*\*\*\*\*

#### ACKNOWLEDGMENTS

This biography was a major undertaking of research and writing that took more than 18 months to complete. Tracing former members of the Canberra Speleological Society, Bureau of Mineral Resources [AGSO] and Tasmanian Department of Mines [MRT] was an arduous task involving more people than just the co-authors.

To this end we have a multitude to thank [many unnamed] including: Cathy Brown of CSS and AGSO who provided the first of many contacts from both organizations, the developers of e-mail and programmers who subsequently worked out the sub-routine commonly referred to as "AllStaff", successfully employed by officers of AGSO [Kathy Nelson], WA Geological Survey [unknown] and Mineral Resources Tasmania [Carol Bacon & Greg Dickens] to cast our search-net far wider than we could possibly have imagined.

Andrew Chalmers of the National Archives of Australia rates a special mention for facilitating free access to Edith's war record once her service number was known.

Alexandra Farrow of The State Library of Tasmania also helped by providing information of Edith's early caving life and insights about her father.

We also thank Wayne Tyson of SRGWA for computer enhancement and digitizing the accompanying photographs and numerous other SRGWA members who endured reading through various revisions of text. Thanks are also due to John Murphy of the Centre for Microscopy and Microanalysis, The University of Western Australia, for further computer enhancing and layout assistance.

However, special thanks are reserved for the many respondents listed under "Personal Communications" who took the time to reminisce or probe a period of more than 30 years, put those remembrances to paper then suffer numerous, seemingly inane questioning, questions whose answers led to supplementary questions and in some cases, sudden, late night phone calls when the tyranny of time zones were forgotten. Thank you all once again for your tolerance!

Edith Smith was a truly remarkable person - the time for even part of her story to be told was long overdue.

\*\*\*\*\*

#### Address for correspondence

Norman Poulter OAM

[Redacted address]

Dr. Albert Goede

[Redacted address]

#### Abbreviations

ASF	Australian Speleological Federation Inc.
CSS	Canberra Speleological Society Inc.
CEGSA	Cave Exploration Group South Australia Inc.
SA	South Australia
NSW	New South Wales
SASS	Sub Aqua Speleological Society
SRC	Speleological Research Council Ltd.
SSS	Sydney Speleological Society Inc.
VCES	Victorian Cave Exploration Society
VSA	Victorian Speleological Association Inc.
UQSS	University of Queensland Speleological Society.



## APPENDIX A

Edie Smith Awardees (a summary of recipients individual contributions is included in the unabridged paper in the proceedings of the 23<sup>rd</sup> ASF Conference)

## NOTE.

- The titles listed below relate to the recipient's current status.
- A list of references is included in the 23<sup>rd</sup> ASF Conference Proceedings as APPENDIX B.

1972 Dr. Aola M. Richards -

1972 Edward A. Lane -

1974 Professor Joseph Newell Jennings  
[1916-84] -

1976 Professor Elery Hamilton-Smith AM -  
[Fellow of the ASF 1974]

1978 Benjamin Nurse -

1980 John R. Dunkley -

1983 Vince Kinnear -

1983 Dr. Kevin Kiernan -

1985 Dr. Albert Goede -

1987 Barry Loveday -

1988 Dr. Julia M. James - [Certificate of Merit  
1983]

1993 John Bonwick - [Certificate of Merit 1984]

1993 Ernst Holland -

1995 Dr. Brian Finlayson -

1995 Dr. Grant Gartrell -  
Dr. Rod Wells -

1997 Dr. Robert Armstrong Osborne -

1997 Neil Anderson -

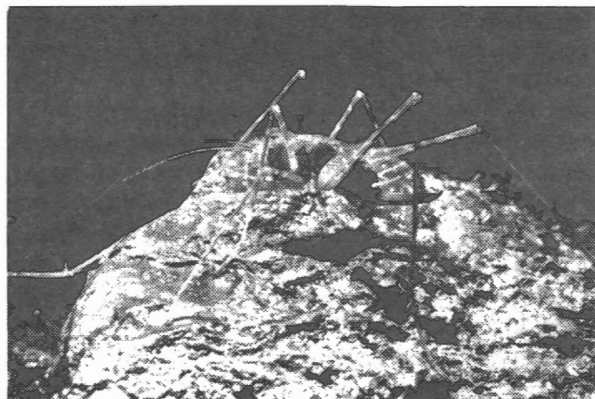
1999 Henry Shannon - [Certificate of Merit 1982]

1999 Norman Poulter OAM - [Certificate of  
Merit 1993]

Acknowledgment is given to John Dunkley, Dr. Albert Goede, Lloyd Robinson, Henry Shannon and Nicholas White for their assistance in the compilation of these summaries. ■

## Back Cover Photographs by Stephan Eberhard

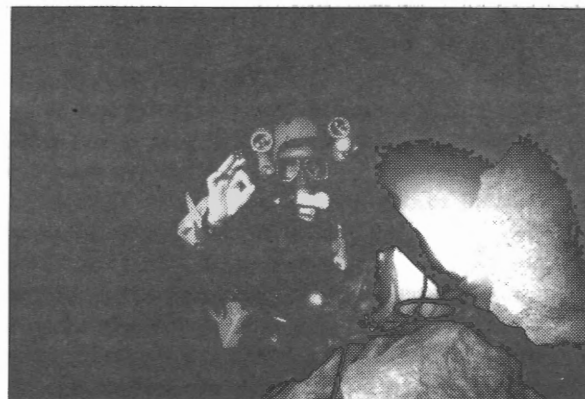
## Top



Cave Cricket

It was taken in Devils Drainpipe, Mole Creek, Tasmania by Stefan Eberhard. It won 1st Prize in the Cave Science Division (Division 1) of the 2001 ASF Cave Photography Competition at "2001: a cave odyssey", with a perfect score.

## Bottom



Cave Diver

It was shot in Cocklebidy Cave, Nullarbor Plain, W.A. by Stefan Eberhard. It won 2nd Prize in the Cavers Division (Division 3) of the Competition.

## A.S.F. AWARDS

### CERTIFICATE OF MERIT

The Certificate of Merit is awarded to give recognition to those who have made contributions to the exploration, conservation, scientific study or documentation of caves. It includes any of a wide range of roles in leadership, administration, development of new techniques and equipment, publication and research, etc. During the course of the Caveman's Dinner at the recent A.S.F. Bathurst Conference the President Peter Berrill, announced three awards.

**MICK GODWIN** For his many contributions to cave exploration and documentation. He collected a massive file of maps for Undara, vegetation maps for Undara and Chillagoe, and also produced a comprehensive book on the Broken River karst with maps and documentary material. Mick was a base camp leader for Operation Raleigh, a program which provides team training for underprivileged young people from urban Britain. He has been Queensland State co-ordinator for the Karst Index Database for

many years.

**DENIS MARSH** For distinguished service over many years to administration, especially regarding the Cliefden Caves where he has been the first point of contact for societies visiting Cliefden. Denis's ability in liason and organisation has played a major role in the groundwork necessary for the two funded projects in the Macquarie Karst region.

**PETER DYKES** For dedicated service to exploration and documentation of the obscure karst areas of New South Wales, for service to the A.S.F., and the New South Wales Speleological Council's Cave Numbering and Nomenclature Committee for more than twenty years. Due to Peter's persistence three grants have been received from the C.S.I.R.O. and the National Heritage Trust for karst related work, one such grant being greater than all the combined previous grants received by the Federation. ■

### Elery Hamilton-Smith receives an AM

A fourth caver has become a Member of the Order of Australia, announced in the Australia Day Honours List, 26th of January 2001. On this occasion Professor Elery Hamilton-Smith was awarded an AM

"for service to conservation and the environment, particularly in the areas of national park, wilderness, cave and karst management, to the development of leisure and recreation activities, and to the community as a contributor to social policy development and through programs dealing with youth issues."

While caving related activity is only one of Elery's wide ranging interests, nevertheless it has played an important role in his life. Elery is one of the founders of A.S.F., C.E.G.S.A., V.S.A. and A.C.K.M.A. He played a major role in the formative years of the Federation as founding Secretary, guiding it through periods of difficulty. While many A.S.F. presidents have lined up for successive presidential terms, Elery is the only one to return as president after a break, in all, three separate terms over a span of fifteen years between 1960 and 1974.

Elery was among the first to highlight conservation as a fundamental objective of all speleologists, has been tireless in promoting this ethic, and is the person largely responsible for the outstanding, world-class record in this field achieved by Australian speleologists. For many years he chaired the ASF Commission on Cave Tourism and Management.

His professional career is equally diverse, ranging across social work, social planning, consulting and academia. Elery tells me he's recently branched out into gerontology, hopefully not simply with an eye to the future! He is one of that very rare breed who not only became an academic without a formal university degree, but rose to the rank of Professor.

Elery is a Member of the IUCN World Commission on Protected Areas and Chair of its Working Group on Cave and Karst Protection. He has been involved in preparation of management planning projects in many of our cave and karst areas including Mt Etna, Jenolan, Naracoorte, Tantanoola, Nullarbor Plain, Yallingup, Cutta Cutta and Cape Range, along with several overseas.

In an earlier life Elery edited this newsletter for ASF and over the years his name has appeared on numerous articles, as recently as our last issue. Elsewhere, of course, he has written hundreds of articles and books on a wide range of topics and diverse disciplines. Retirement has not slowed him, indeed my impression was that it enabled him to become even more active and visible!

The Federation has recognised Elery's services by electing him as its first Fellow in 1974, followed by an Edie Smith Award in 1976, making him the only person to be honoured with both awards. Elery is still very active in cave related activities, and is looked on as today's Father-figure of Australian caving. ■

L.Robinson                      Awards Convenor.  
With additional information by John Dunkley



# Church Creek - 'A Trip Report'

(Or, "Remind me, what's so great about the great outdoors?") 22-26 January 1999 by Peter McDonald

**Foreword:** I dream of thistles taller than a man; burrs by the bucket load; savage, aggressive, territorial, killer wasps; of a goanna with a plastic fetish; a cacophony of cackling cicadas; of walking tracks exceeding 45 degree incline - long, monotonous, weary walking; thunderous storms and unrelenting sun - I dream of Church Creek.

Most days you will find me behind a computer screen: safe, content and comfortable. Occasionally, I will pull my weary, atrophied muscles away from work, and venture into the 'Great Outdoors' (no! - not the TV show). One such time I went to Church Creek — my first time (last time??). It seems so long ago: so very long ago. Only after extensive therapy have I been able to write about this trip and put my experience into words.

This is my story, a story of Church Creek, and my very first trip report. I've called it: Church Creek - a trip report. This trip report is a blend of personal observation, acute social comment, bullshit, exaggeration and bias — with the occasional fact thrown in. For example: Did you know that in 1967, Sweden changed from left hand drive traffic, to right hand drive? That is a fact.

**The date:** 22 - 26 January; Australia day 'longer than normal long weekend' 1999. In true Aussie style we pushed the long weekend envelope to include Monday 25 January.

**The people:** David 'Suunto' Bennett; Angus 'Pin cushion' Macoun; Neal 'I'll bash the shit out of that bloody goanna if get my bloody hands on it' Murrells; Glenn 'Just popped along for a pleasant stroll' Stalgis; and myself. Peter 'Oh me, oh my, I should have stayed at home' McDonald.

**The place:** Church Creek caves.

Church Creek caves are located in the stunningly beautiful and remote Kanangra-Boyd National Park. The cave system is divided into two major areas with caves located on Mt. Armour and more in the valley below. The caves on the valley floor are further divided into sections. Church creek is a tributary of the Kowmung River.

**The reason:** Cave surveying (and going to the pub afterwards.)

**The equipment:** Suunto compass and inclinometer, Magellan GPS 2000, Magellan GPS Pioneer, David, 30 metre fibreglass tape, 1 metre wooden rule, camera, tags, drill, etc.

## The Trip

### Friday 22 January

We met at Neal's place at Emu Plains at 6.00pm Friday 22 January, where upon I adjusted my watch to AAT (Angus adjusted time) and discovered that it was still only 4.00pm. With time to kill (and possibly Angus) I set about playing Lego with Neal's son, Justin. Neal and David sorted out some last minute packing, that is, Neal gave David lots of stuff to carry.

When Angus arrived we were quickly on our way in Neal's 4WD to meet Glenn at the pizza place at Blackheath. The pizza was great and Angus grabbed a doggy bag. We then departed and were on our way to Church Creek via Oberon. David went with Glenn to give him some company, or to avoid the company of Neal, Angus and myself. Or to avoid Neal's music selection. Or to avoid the smell of Angus' pizza.

We arrived at the gate on Mt. Armour fire trail at approx. 10.30pm, set up a pathetic looking campsite, and went to bed hoping that it didn't rain. It did. But not badly. Thankyou, God. (Apparently, it is grammatically acceptable, these days, to use short sentences to add impact to a story. I certainly. Hope. So.)

### Saturday 23 January

The next morning we were up raring to go - and waiting for Angus. Whilst getting gear out of Neal's truck, someone - in Bart Simpson fashion (it wasn't me, you didn't see it, you can't prove a thing) burst a milk carton that was in Neal's backpack. The milk wet some of Neal's gear including his knee brace (the knee brace connected to the leg brace, the leg brace connected to the hip brace - Oh, hear the word of da Lord!).

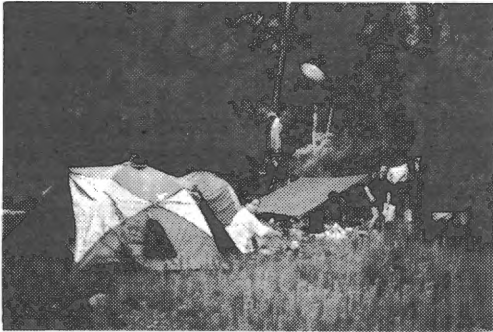
*Tip one for fellow cavers: There's no use crying over spilt milk. Being abusive and pissed off is OK - but no crying.*

Whilst Angus was rearranging his rearranged re-packing, David, Neal and I started on the walk. Glenn waited for Angus. The fire trail had recently been cleared — we found out later that there had been some recent fires in the area. The walk should have been fairly easy but I found it hard going. As always when in this situation I promised myself that I would 'get fit' soon. (Yer, right!).

It took one and a half hours to get to the karst area on Mt. Armour. It seemed a lot longer. Neal and I took GPS readings to get a fix on our location. (With true GPS accuracy, we calculated that we were somewhere between Wellington NZ and Broome WA.)

Actually, the programmed error in GPS signals for use with civil GPS receivers is up to 100 m error. This deliberate error is controlled by the U.S.A. Department of Defence. Manufacturers of civil GPS receivers use one of a few formulas for reducing the error mathematically - to around 30 metres. By using more than one GPS unit, and taking multiple readings, we were able to get a reasonable fix on our location.

We tagged a datum point, and surveyed the Mt Armour caves known to us to that datum point.



*Relaxed camping at the "usual" spot, Kowmung River, Church Creek Caves*



*Glenn modelling his rain coat for that brief shower and showing the entrance to RSS temporary tag 2 (ie RSSTT2).*

David and Angus set about re-acquainting themselves with some of the cave entrances, and photographing them to assist with future identification, monitoring and tag location etc.

*(During the trip we took photographs at least of the entrances to (where CC stands for Church Creek ie caves are numbered with a prefix referring to the area, and actually named after Government*

*Ministers who apparently did not believe they existed.) CC1, CC2, CC3, CC4, CC5 – both entrances, CC10, CC13, CC15 (RSSTT?), CC16, CC17, CC18, some cave 'entrances' we have named – ie Pod hole, Maiden hair hole, Whistle stop (have your ears recovered Gus? - Ed), Fig Cave (which David thinks should be called Australia Day Cave – a sizeable promising entrance – just got a fig tree growing in it) and RSS temporary tags (RSSTT) on various karst features ie RSS TT 2, 3, 11, 12 and 14 - Eds). Whilst doing this a storm came over and soaked us for about half an hour— then left us stinking hot again.*

The walk down the mountain into the valley is a shit. Hardly any track and covered with shale. Very steep and slippery. My feet were killing me by the time we got down — one hour later. Another half-an-hour walk and we were at the campsite. A veritable oasis. A grassy knoll to beat all grassy knolls, right next to the crystal-clear Kowmung River with a sizeable natural pool. But, at first, I couldn't care less. I was too buggered to care what it looked like. Only after settling down and having a swim and a rest did the benefits of the location start to seep in and soothe my simpering soul.

We were very lucky for the rest of the weekend so far as rain was concerned. We had some light falls at night while sleeping, and one fall while we were in CC4. What we did have to dodge most of the time were cicadas. The B-52 of bugs; the kamikaze of critters; the Aeroflot of the insect world. Cicadas were crashing out of control and buzzing into everything. You have to admire the cicada for how accepting they are of events. They crash land upside down, make a few pathetic attempts to right themselves, failing, they give up and say "Oh well, I might as well just lie here and die". I think there's something in that for everyone.

We set up our campsite in the 'usual' spot beside the river, and did nothing much for the rest of that day.

#### **Sunday 24 January 1999**

On Sunday, Glenn, David, Angus and I went and did some caving in Fife Cave (CC4). You will notice that I did not mention Neal's name. That is because Neal 'I have to take it easy because of my bad knee' Murrells decided to take it easy because of his bad knee.

We couldn't find the logbook. We assume that someone has removed it but the container is also gone (or it has been secreted away in some hidden nook or cranny). We should probably take a container and log book and pencil on our next trip. We headed for the southern end of the cave as something different to the northern end, which we have been to a few times. Hills Speleos had kindly provided us with a copy of their map of the southern end of CC4 as we are updating Australian Speleological Federation's (ASF's) documentation



of the Church Creek area. One of the highlights was the very fine aragonite crystals on the wall.



*An innovative approach to photographing the entrance of CC2. Note also the measure stick for scale.*

After caving we had some lunch and started on our more serious task of surveying. Starting at CC5 (Hughes Cave) we surveyed back to the dry creek bed and upstream and to CC4 plus the small holes that we discovered on a previous trip which we called Maiden Hair Hole, Pod Hole and Whistle Stop Hole. During this process we realised that David has an uncanny ability to pick the inclination or declination of a slope — although I'm not sure how this will help his social life.

That evening for dinner, we did not have roast beef, baked potatoes with sour cream, gravy, fresh peas and beans, baked pumpkin and sweet potato. We had something else. This was washed down with port.

*Tip two for fellow cavers: Don't get Dave Bennett to cut cake or cheese - he doesn't know how. The basic principle of cutting things with a knife without gross mutilation and destruction clearly eludes David.*

Later in the evening we played some games that seemed OK at the time, but not in hindsight. The games usually ended up with Angus singing. This is clearly a thing to be avoided in future. We had cheese and bikkies but I confess - I forgot to bring the chocolate.

### Monday 25 January 1999

More surveying. Today we surveyed the locations of the entrances of CC1, CC2, CC3. These were surveyed to the creek bed (Church Creek). A datum point along the creek bed was established using GPS readings. Angus and David photographed the entrances to all of the caves that were surveyed.



*Peter Mc (author) - showing his great legs - and Gus surface surveying near CC4 - note Gus's gaiters - useful since weeds have invaded the area.*

When we returned to the campsite Neal found some things had gone missing. First noticed was one of Neal's thongs — which was found a short distance away in a slightly chewed state. Later on, Neal noticed some other things missing, namely, Neal's bottle of methylated spirits; Neal's yellow cup; Neal's 'fridge cooler' and also Neal's sense of humour. After following a trail of polystyrene balls, Neal found his cooler (destroyed) and bottle of metho (intact). These had clearly been taken by the local goanna who has taken a liking (or dislike - Ed.) to synthetic products.

When the goanna was spotted a little while later, Neal chased it up a tree and threw things at it. Neal was clearly not in a sane state of mind at this time (or was he...this is not the first example of this behaviour from goanna's in this area - Eds.).

After a strenuous day, we relaxed by playing a game of Frisbee. The rules of the game were as follows;

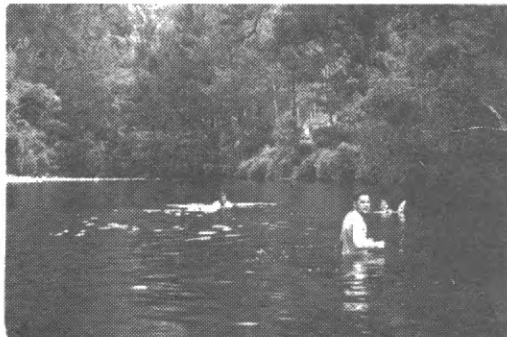
*Rule 1)* Everyone playing must be swimming, dog paddling, or standing in the river.

*Rule 2) The Frisbee must be thrown into the bush on either side of the river.*

*Rule 3) The Frisbee must not land closer than 100 metres to any other player.*

*Rule 4) The players in the lagoon must get out of the water, retrieve the Frisbee and then throw the Frisbee back into the bush.*

I might add that I was extremely good at this game.



*Spot the frisbee! – Playing frisbee in the Kowmung River – a game Peter Mc is very good at (his version)*

After the activities, we had dinner followed by some cake, sat around the fire, drank port, ate cheese etc. etc.

*Tip three for fellow cavers: Don't wash ants off your cheese with methylated spirits. It might look like water -- but it isn't.*

#### **Tuesday 26 January**

Pack up - Walk out. Shit! Shit, Shit, Shit of a walk. Shit! The walk out is extremely pleasant and is not to be missed.



*Doing some gardening – while waiting for all to be ready to go in the morning. Photo not taken on last morning as it was after 6am and Neal's tent was still up.*

On the way out we did some more work on top of Mt. Armour. During the walk out Neal started to resemble a large schooner glass. I got a splitting headache. When Neal opened up his truck, which had been sitting in the sun all weekend, he was joyously overwhelmed by the smell of Angus' seafood pizza that had been left there to smoulder and ferment.

The trip was finalised by a quick trip to the pub at Oberon (too quick for Angus, who was partially terrified by Neal's swift driving style). Once at the pub we enjoyed a few well-earned beers and some greasy food. I vow never to go back to Church Creek, however, I'm already starting to think that maybe it wasn't that bad after all. ■

Peter McDonald.

This article was first published in "Cimmerian".

#### **From SPELEO E Bulletin 6**

##### **Book Sales**

ASF has set up a facility to handle sales of books and other cave-related goodies, with all net proceeds to go to ASF. With the Jennings book on the horizon and the AGSO educational kit complete, we are negotiating favourable wholesale deals.

##### **Publications For Sale**

Please advise the Publications Convenor, Angus Macoun at [REDACTED] of any publications that anyone has for sale on caving and related topics within Australia. This will enable a list to be put together which can then be distributed to members to publicise the publications.

##### **Caves and Karst Educational Kit**

The ASF was approached by the Australian Geological Survey Organisation (AGSO) for material for an educational kit on caves and karst. ASF supplied data on location of karst areas and tourist show caves around Australia from the Karst Index Database. Our logo and website are publicised and we will receive in exchange a number of copies of the kit. A number of individual clubs and members also contributed to what looks like a fine educational resource.

[REDACTED] from the AGSO. For further information, contact Cathy Brown at [REDACTED]



## The Journal of Australasian Cave Research

Now in its 38<sup>th</sup> year of publication, *Helictite* has been instrumental in raising the profile of speleological exploration and scientific research in Australia. One of only 4 or 5 similar journals in the world, it has also greatly enhanced the reputation of Australian speleology in overseas countries.

Under an agreement with the previous publishers, ownership of *Helictite* has been transferred to the Australian Speleological Federation Inc.

It is a well-established, reputable, refereed journal of speleological investigation, but it relies on two things for its continued success: writers and subscribers.

As well as scientific papers, comprehensive descriptive accounts of the exploration and morphology of individual caves will be welcomed from anyone. You do not need to have a scientific background to contribute, and quite a number of recreational cavers have written articles of lasting significance. The articles are all refereed by two speleologists with expertise in the particular area and edited to meet usual scientific standards. The editors will advise and assist prospective authors as necessary.

Volume 36 has been published and 37 is in production. Most back issues are still available.

Subscriptions: Volume 36 \$20.00 AUD      Volume 37 \$20.00 AUD

Correspondence: Susan White, [REDACTED]  
[REDACTED]

Coming soon in *Helictite*: the Jenolan Show Caves survey – new maps of the Jenolan system based on extensive resurveys, including colour fold-out maps. The abstracts of the Wellington Karst Workshop February 2000 will be published in Volume 37.

### ***Wanted***

**An energetic person with the ability to sell ice to Eskimos.** The Publisher of the ASF journal requires the services of an Advertising Co-ordinator. The job requires the ability to approach manufacturers and suppliers of equipment, clothing and other wares vaguely relevant to the pursuit of our sport and solicit advertising material from them for publication in the Australian Caver. If you would like to try your hand at this interesting job please contact the Publisher, Australian Caver, Angus Macoun, 37 Chelmsford Avenue, Lindfield. NSW 2070, phone him on [REDACTED] [REDACTED] [REDACTED] [REDACTED]

This position will help generate funds which will allow production of a better quality Journal (better paper, print quality, size as well as colour) without a drain on the Federation's budget which will help keep our fees low.





## *CaveWorks Research*

### *Mammoth Cave Water Tracing*

The CaveWorks research project (refer Australian Caver No. 150) in the Leeuwin-Naturaliste Ridge karst near Margaret River, Western Australia, has discovered a previously unknown stream connection between one of the region's most historic tourist caves and the beach several kilometres away.

Water tracing conducted during winter 2000 proved that the Mammoth Cave stream flows to Conto Spring.

The stream flowing into the popular tourist entrance of Mammoth Cave was found to travel a linear distance of 3.5 kilometres beneath the limestone ridge, to emerge at Conto Spring on the shores of the Indian Ocean.

The connection was proved using small quantities of environmentally-friendly fluorescent dyes, and specialised laboratory techniques (developed by the Ozark Underground Laboratory in the USA) that detected the dye in minute concentrations at the spring.

The destination of the Mammoth Cave stream has remained a mystery for many years. A number of earlier tracing attempts failed to detect anything beyond a stream connection with Conference Cave, but nothing was known of where the water went from here. The CaveWorks trace re-confirmed the obvious connection from Mammoth Cave to Terry's Cave and thence to Conference Cave.

Other earlier water tracing studies have established hydrological connections from Calgardup Cave to Bobs Hollow, and, from Lake Cave to Conto Spring. An attempt to trace Ruddocks Cave failed when the dye ended up back outside the "inflow" entrance, presumably due to back flooding!

There are a number of springs on the coast that might have been fed by Mammoth Cave, including Bobs Hollow, Conto Spring, and a number of other

outflows, some of which are only visible at extreme low tide. Bobs Hollow represents the shortest potential flow route and previous speculative interpretations of the North Mammoth Doline Chain suggested a possible (fossil) flow path towards Bobs Hollow. A discrete submarine or intertidal resurgence of the Mammoth Cave waters had also been postulated.

The dye was injected into Mammoth Cave stream under average winter flow conditions and was detected at Conto Spring within 18 hours. This rapid travel time indicates that the water is flowing through a well developed conduit!

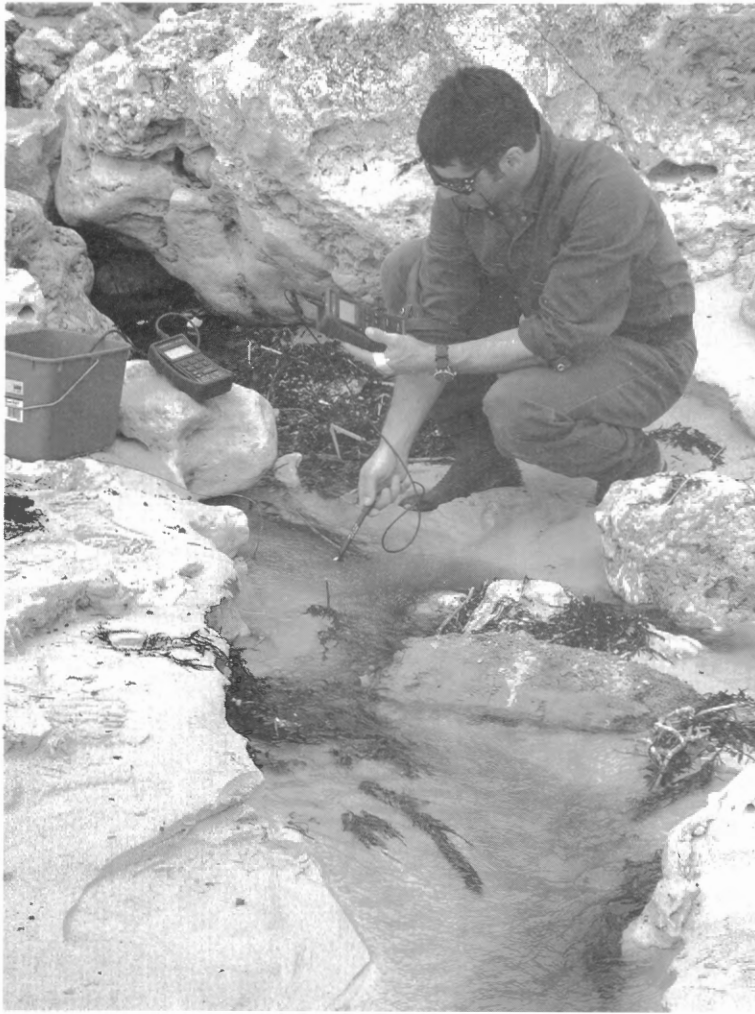
The water tracing and mapping study undertaken by CaveWorks has found that the entire catchment area of the Mammoth Cave system is within the boundaries of the Mammoth Cave Reserve and the Leeuwin-Naturaliste National Park. The study has also shown that there are no adverse impacts derived from neighbouring agricultural or viticultural land use activities affecting the catchment of Mammoth Cave.

At the same time as the Mammoth trace, different dyes were also injected into W183 stream sink and Forest Grove stream sink. These dyes were not detected at Lake Cave or Conto Spring. No dyes were detected in Connelley's Cave or Bob's Hollow. Sampling for the dyes continued for 13 weeks.

The results have improved our understanding of the cave system and will contribute to the protection and sustainable management of groundwater resources and associated ecosystems in this area. Further water tracing studies are planned. ■

Stefan Eberhard  
Research Officer, CaveWorks  
February 2001

Related photographs appear opposite.



"CaveWorks Research Officer,  
Stefan Eberhard sampling at  
Conto Spring."

Photo  
Robyn McBeath, CaveWorks

"Mammoth  
Cave stream  
passage."

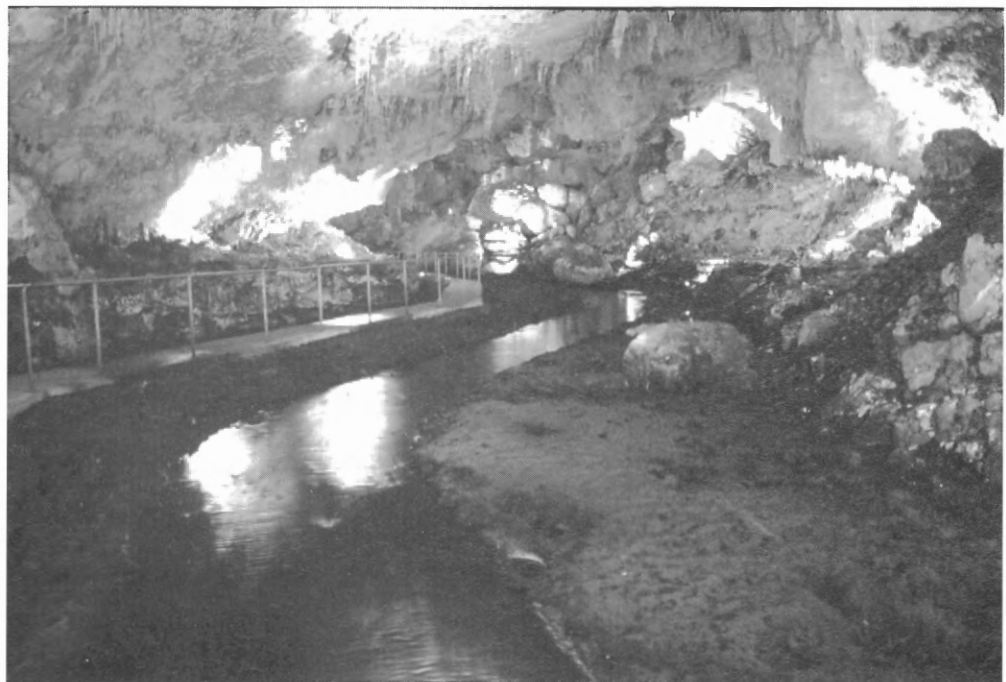
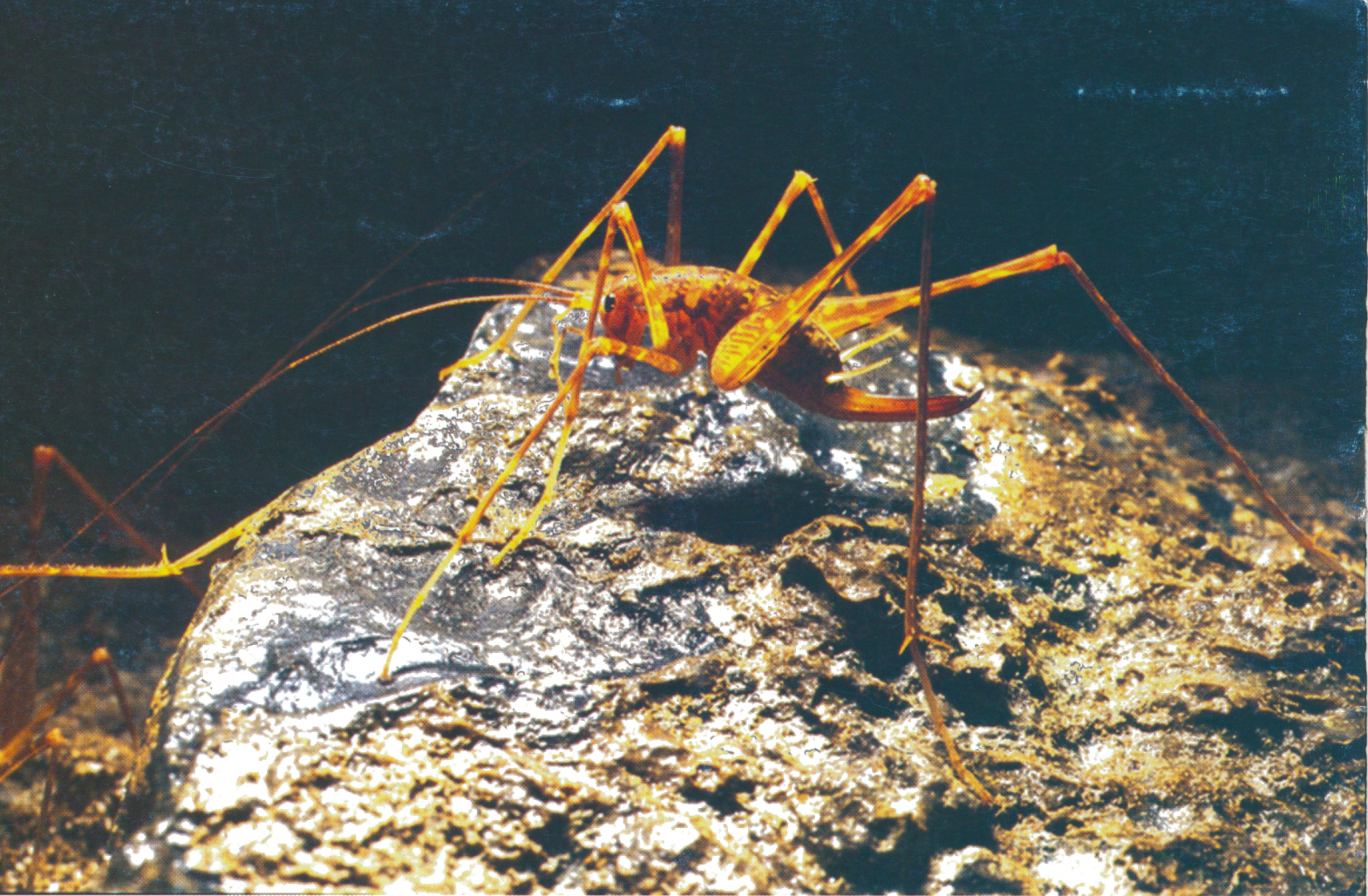


Photo Stefan  
Eberhard,  
CaveWorks.





Cave Cricket



Cave Diver