

CAVES

The Journal of the Australian Speleological Federation

AUSTRALIA



SPELEO 2017: INTERNATIONAL CONGRESS OF SPELEOLOGY

SYDNEY JULY 2017

BUNDA CLIFFS • WINDJANA 2015

No. 202 • NOVEMBER 2016

COMING EVENTS

This list covers events of interest to anyone seriously interested in caves and karst. The list is just that: if you want further information the contact details for each event are included in the list for you to contact directly. The relevant websites and details of other international and regional events may be listed on the UIS/IUS website www.uis-speleo.org/ or on the ASF website <http://www.caves.org.au>.

For international events, the Chair of International Commission (Nicholas White, nicholaswhite@netspace.net.au) may have extra information. A somewhat more detailed calendar was published in the recent ESpeleo. This calendar is for international events in 2016 as we have not received any information on events in Australia.

2016

November 6-13

International Show Caves Association Conference, Oman, <http://www.i-s-c-a.com/event/64-isca-conference>

December 12-16

American Geophysical Union, San Francisco, California, USA, <http://fall-meeting.agu.org/2016/>

2017

There will be neither an ASF nor an ACKMA conference in 2017. For details see the website <https://www.speleo2017.com>. The Second Circular with a lot of details is now available on the ASF and ICS websites.

January 7-8

ASF Council Meeting in Adelaide at the Somerset Hotel, 505 Bridge Road Para Hills and trip the following day to Cora-Lynn Cave. For further information and updates, contact Graham Pilkington p-c-h@bigpond.net.au or 08 8258 8877.

March 6-10

Hypogea International Congress of Speleology in Artificial Cavities, Cappadocia, Turkey, www.hypogea2017.com

May 16-18

US Geological Survey Karst Interest Group Meeting, San Antonio, Texas, USA.

A very useful international calendar is posted on the Speleogenesis Network website at www.speleogenesis.info/directory/calendar/. Many of the meetings listed above are on it but new ones are posted regularly.

May 21-24

Climate Record: The Karst Record VIII, Austin, Texas, USA, <http://sites.uci.edu/kr8conference/>

June 19-23

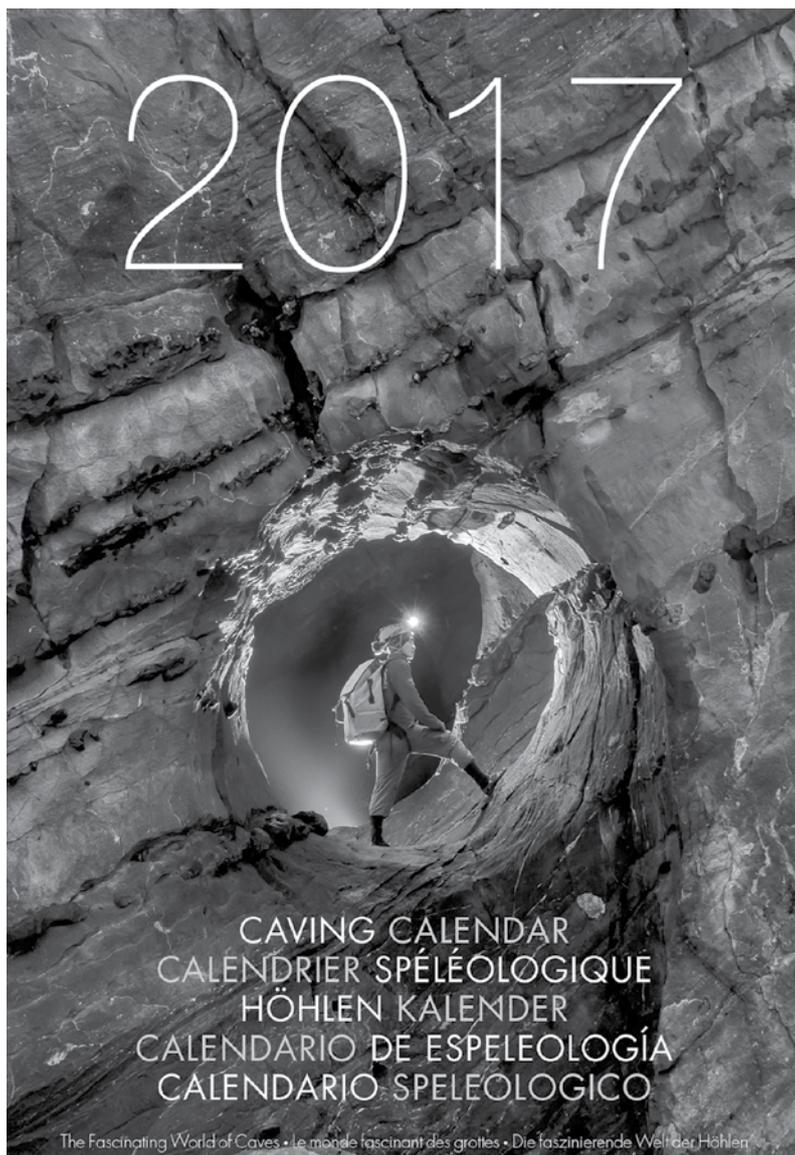
National Speleological Society Convention, Rio Rancho, New Mexico, USA, <http://nss2017.caves.org/>

June 23-26

National Association of Mining History Organisations Conference 2017, Godstone, Surrey, UK, <http://namho2017.info/>

July 23-29

17th International Congress of Speleology (17th ICS) Speleo 2017 Sydney



Grab a Bargain! Speleo Calendars are available again

A NUMBER of the spectacular Speleo Projects 2016 Calendars are available without having to deal with international money transfers.

This year the donation is to the ASF Karst Conservation Fund. Make a tax-deductible donation of \$35 or more to ASF Karst Conservation Fund and receive a gift calendar for your enjoyment.

Twelve stunning images take you on an enchanting subterranean journey to caves around the world. The 2016 calendar monthly pages provide a glimpse into the wild and tourist caves of France, Iran, Italy, Slovenia, Spain, Turkey, the United Kingdom, the United States and Vietnam. The Featured Photographers are Alexandra Bengel, (Germany); Bob Biddix, (United States); Dave Bunnell, (United States); Philippe Crochet, (France); Kevin Downey, (United States); Csaba Egri, (Hungary); Chris Howes, (United Kingdom); Josh Hydeman, (United States); Sergio Laburu, (Spain); Michel Renda, (France); Georg & Dalya Taffet, (Switzerland) and Max Wisshak, (Germany).

Make your donation soon and don't miss out on this great gift!

Send your cheque to: C/- Grace Matts, ASF Karst Conservation Fund, 176 William St, Bankstown, NSW, 2200.

CAVES AUSTRALIA

Caves Australia is the Journal of the Australian Speleological Federation and is published quarterly.

This work is © copyright 2015, Australian Speleological Federation Inc, although copyright in articles, photographs and illustrations remains with the authors. Aside from any fair dealings for the purposes of private study, research, criticism or review as permitted under the Australian Copyright Act 1974, no part may be reproduced without the written consent of the author and/or publisher and the inclusion and acknowledgement of the source.

The views expressed in *Caves Australia* are not necessarily those of the Editor or Publisher (the Australian Speleological Federation Inc) or its Executive, Commissions or Committees.

Editor:

Ian Curtis

Email: iancurtis10@hotmail.com

Production:

Susan White

Email: susanwhite@netspace.net.au

Greg Leeder

Email: gregocycle@gmail.com

Advertising Manager:

Alan Jackson

Email: alan.jackson@lmrs.com.au

Proofreading:

Susan White

ASF: asfinfo@caves.org.au

For all ASF publications:

publications@caves.org.au

Editorial contributions are welcome!

For contributor guidelines, contact the Production Manager.

Advertising

Contact the Advertising Manager for commercial, caving community and classified rates. Rates range from \$5 to \$400 for full page mono back cover. Discounts apply for placements of 4 adverts and an up-front payment.

Issue Dates

March, June, September and December

Magazine Subscription

Journals are included within ASF membership fees. Subscription to the magazine is also available to non-ASF members at \$40.00 including postage within Australia for one year (four quarterly issues).

Change of address

Notify us immediately of any address changes to ensure delivery of your *Caves Australia*.

Caves Australia

No.202 November 2016

Australian Speleological Federation

PO Box 388 • Broadway • NSW 2007 • www.caves.org.au

ABN 15 169 919 964

ISSN 1449-2601 • Registered Publication NBQ0005116



ASF

Contents

Coming Events.....	2
Editorial	4
President's Report.....	4
From the Publications Commission Chair to all members of ASF	5
50th Anniversary of the UIS.....	5
Obituary: Kenneth George Grimes	6
<i>Susan White</i>	
Conversation on Conservation.....	8
White-Nose Syndrome and Australian Caving	
<i>Nicholas White</i>	
17th International Congress of Speleology — Speleo 2017	9
Update on Organisation	
<i>Denis Marsh</i>	
Book Review	10
The Discovery and Development of the Augusta Jewel Cave	
<i>Susan White</i>	
Bunda Cliffs, Nullarbor Plain	11
<i>Alan Jackson</i>	
Climate Research in the Macleay Karst	13
<i>Philip Holberton</i>	
A new New Zealand Canyoning Guidebook.....	16
Windjana 2015.....	17
<i>Alan Pryke</i>	
Almost: a tale of two cave dives.....	20
<i>Keir Vaughan-Taylor</i>	
The History of OSS.....	23
The ups and downs of a regional caving club	
<i>Ian Curtis</i>	
Details about the International Speleology Congress 2017	28
Speleo 2017 Program	30
Call for Technical Session and Symposia Papers.....	31
Speleo 2017 Field Trips and Excursions.....	32
Eurospeleo 2016	34
<i>Ray Deasy</i>	
Book Review	35
Wonderstruck: Treasuring Tasmania's caves and karst	
<i>Ian Curtis and Susan White</i>	

Cover: *Ascending from Raptor Cave, Bunda Cliffs* Photo: *Alan Jackson*

ASF Executive

President

John Cugley

Senior Vice-President

Jim Crockett

Treasurer

Grace Matts

General Secretary

Joe Sydney

Executive Secretary

Phil Maynard

Membership Secretary

Robert Kershaw

Vice Presidents

Colin Tyrrell

Deb Hunter

Graham Pilkington

Denis Marsh

Non-Executive Vice President

WANTED
ARTICLES FOR CAVES AUSTRALIA!

Whether caving, cave diving or generally just caving, *Caves Australia* readers are interested in YOUR story. It is only with YOUR contribution that we can produce a quality magazine for all to enjoy. For writing and style guidelines, contact the Editor or Production Manager.

Layout and Production by
Summerleas Print, Kingston, Tasmania

EDITORIAL

It's been a long time coming, but here it is.

John's report shows just how busy the coming months will be—and how exciting for Australian cavers. I've just returned from the Nullarbor where I heard first-hand of the coming conference's organisational intricacies and challenges. Organising a world congress is a monumental task and I, too, encourage you to put your hand up to help out.

The proposed dam on the Belubula River is quietly bubbling along. The Cranky Rock site (downstream of Cliefden) is currently being assessed, though The Needles site has not definitely been ruled out. Both sites will have an impact on the caves and karst.

To help ensure NSW water security a Legislative Council committee has been formed to look into the augmentation of water supply for rural and regional NSW. Submissions have been invited and 95 responses received - several from caving clubs. The ASF, OSS, SUSS and the Save Cliefden Caves Association responded, focusing attention on the caves and their values. Several key dam questions have still not been answered: what will be the size of the dam and the cost? Who is the water for? Who will be paying for the dam? Should it have public/private financing, as is mooted, who will own the water?

To more effectively defend the caves the ASF, OSS, the Inland Rivers Network and the Save Cliefden Caves Association have joined forces, forming a Belubula River Alliance. Regular monthly phone conferences take place and information is shared.

The caves will play a role in local elections, too. The Cliefden Caves are on the border of the Calare-Hume federal electorates, both of which were recently retained by the National Party, and in the Bathurst state electorate, it, too, held by the Nationals. Calare federal member John Cobb's resignation saw the Orange state member successfully run for his seat. This has left the state seat vacant, and a by-election is scheduled for November 12.

Orange has been a safe Country Party-National Party seat since forever, but the Liberal/Nationals are fielding criticism on several fronts locally: forced council amalgamations; proposed closure of the greyhound industry; and this proposed dam on the Belubula. Anti-dam speeches have been made in the NSW Upper House by the Greens and Labor.

Polling indicates a substantial swing away from the government. Anti-National Party signs are springing up around the area. A poor result may presage a future change in government. It is a time of uncertainty.

— Ian Curtis, Editor

President's Report

THE NEXT several months are going to be a busy time for cavers here in Australia: first of all, the weather will be warming up and we will all be off visiting our favourite caving areas; then in January the ASF AGM will be held in Adelaide, followed by the Federation's 60th Anniversary Dinner; and then, in July, we will all be meeting up in Sydney for the Speleo 2017 International Speleological Congress.

In August I attended the UIS Bureau meeting, which was held as part of the Eurospeleo 2016 Congress.

It was great to see a small contingent of Australians amongst the more than one thousand cavers attending this event. Coming to these international events is so rewarding.

It is a time to swap ideas, stories and see how others are doing things. This congress was held at Dalesbridge in the stunning Yorkshire Dales.

The location is central to many caves, so many caving trips departed every day, along with a full lecture agenda, and evening events.

The English summer weather even turned on the sunshine for a few days before the rain came down on the last days.

I spent my time promoting the Speleo 2017 International Speleological Congress. Over a thousand bookmarks and stickers promoting the congress were handed out, and many hours were spent chatting about Australia and the congress.

Thanks to the Aussie attendees for the great job talking about Australia and the upcoming Sydney congress.

Many people I spoke to will be spending sometime before or after in Australia, so make them welcome.

As a side note, Julia James, some fellow Bureau members and myself visited the White Scar tourist cave on the last day of the congress.

As you enter the cave with the guide they point out the high level flood line sign, which is about 1.5 metres up the wall.

That night the heavens opened up and the cave flooded. Have a look at some impressive footage on YouTube.

From the UIS Bureau meeting - 2021 will be the Year of Cave and Karst. Time to start talking with fellow cavers about a way to celebrate.



The UIS are also looking at methods to assist multi-national caving expeditions. More information on how to apply for funds and criteria for assistance will be available on the UIS website soon.

Speleo 2017 is not that far away both in time and distance. The organising Commission, led by Denis Marsh, has been working steadily and requires the assistance of ASF members for a few roles.. Please contact Denis if you can help.

Have you registered for the Congress yet? If not, please read the last *Espeleo* and the great article by Dr Tim Moulds on why all Australian cavers should be coming along.

It will be time to showcase our caves and karst to the world. You can do this by presenting a paper or poster. Enter one of your photographs.

This will be the time to meet cavers from other countries and start planning a multi-national caving expedition to get access to those UIS funds!

The ASF 60th Celebration Dinner will be held on 7 January 2017 in Adelaide. The ASF AGM will also be held during the day at the same place as the dinner.

The field trip the following day to Cora Lynn will round off a great way to start a big year for cavers in Australia. (Details were published in the last *Espeleo*.)

— John

From the Publications Commission Chair ...

to all members of ASF

FIRST, an apology for the delay in getting this *Caves Australia* to press. This is due to a number of things that have generally got in the way.

We had hoped we would get it organised by the end of May but that just did not happen.

However, a major obstacle to the production of four issues of *Caves Australia* (CA) each year is the dearth of suitable material to publish.

A normal sized CA is 24 pages including covers. This requires at least 15 pages of material i.e. articles.

The rest is taken up with calendar, ads, table of contents, president's report and editorial.

We also can call on the Conservation Commission to produce a Conversation

on Conservation (one page at least). Small snippets of information will fill in the gaps.

If there is a time gap, like now, we need to have double issue i.e. **at least 40 pages** and the problem merely compounds. At the end of May we still did not have anything like 15 pages of material. I am certainly not interested in hearing complaints from cavers who have not produced anything for CA for years, if ever.

Fortunately, we can reproduce in this issue a lot of material about the ICS next year in Sydney. This issue has a lot of material put together from material from a limited number of people, especially from the CA team i.e. OSS and VSA with help from some stalwarts from a few other clubs. Thanks to them we have a CA at last.

Caves Australia is not the place for the

usual short club trip reports and the CA team is not meant to be writing most of it. It is also really unfair for the few who do submit articles to have to wait for ages for them to appear.

Fortunately, we now have a reliable *ESpeleo* with Ian Binnie as editor, which means that notices and general information can go out to ASF members regularly. Perhaps we do not need CA four times a year any more and twice would be more manageable, e.g. once in the first half of the year (March?), and once in the second half (September or October)?

Please think about this and let me know your opinions. Remember actions—i.e. articles written and submitted—speak louder than words.

— Susan White

50th Anniversary of the UIS

THE International Union of Speleology (UIS) was established during the closing ceremony of the 4th International Congress of Speleology, held in Ljubljana and Postojna, Slovenia in 1965, was registered as a legal entity in Slovenia in 2002 and has its office at the Karst Research Institute ZRC SAZU, Postojna.

The celebration of the 50th Anniversary of UIS was held in Postojna on June 19, 2015.

This event had several distinguished guests from the Slovenian government, the UIS and caving organisations as well as speleologists and cavers.

It was a complex program of speeches and a cultural program within the cave and finished with the Slovenian Police Brass Quintet and iON dancers with a performance of *The Light in the Dark*.

After the celebration, there was a banquet with the UIS awards in the restaurant Jamski Dvorec in front of the cave.

The winery Jeruzalem Ormož bottled a special edition of cabernet sauvignon 2014 as *Postumiae Speluncae Vinum* specially for the 50th Anniversary celebration.

In honour of the UIS anniversary, the Karst Research Institute ZRC SAZU dedicated its 23rd International Karstological School, 'Classical Karst', with the theme of *Caves — Exploration and Studies*.

These have been conducted annually since 1993 with different aspects of karst studies being presented each year.

The 23rd Karstological School (June 15 and 20, 2015) highlighted cave science, open exploration frontiers, large cave systems, history of cave exploration in central Europe, history of the International Union

of Speleology, and the future of speleology.

Other important activities commemorated the UIS Anniversary. This included the Post Office of Slovenia publishing a postage stamp, postcard, and a seal for the 50th Anniversary (www.posta.si/) on May 29, 2015.

The envelope with the illustration of the commemorative stamp was in use during the celebration on June 19, 2015. The commemorative stamp was designed to replicate and honour the event from 50 years ago.

Modified from a report by Nadja Zupan Hajna (Slovenia) (UIS Adjunct Secretary/UIS Treasurer) in the UIS Bulletin Volume 57-2, December, 2015.

(The full article can be accessed in the Bulletin).

Kenneth George Grimes

19 October 1944 – 17 August 2016

Susan White

VSA

KENNETH GEORGE GRIMES grew up on a beef cattle property near Proston in Queensland, the youngest of a large family.

His early schooling was by correspondence until he was nine, followed by boarding school in Toowoomba for primary and then Brisbane Grammar School.

At 'Grammar' he so disliked the inner city environment he was determined to work in the bush.

As a result he studied geology and geomorphology at the University of Queensland on a cadetship from the Queensland Department of Mines, graduating with a BSc (Hons) in 1968. He undertook further studies in 1973-1979, mainly in geography and geomorphology.

At UQ he took up caving with the University of Queensland Speleological Society (UQSS), joining such luminaries as Henry Shannon, Dave Gillieson, Ant Sprent and Michael Bourke.

Because he loved outdoor activities — but not competitive sport — he joined the bushwalking and caving clubs at the University of Queensland where he met Janeen and they married in late 1970.

From 1969 to 1991 he was a geologist in the regional mapping section of the Geological Survey of Queensland (GSQ) where he was assigned to the joint BMR-GSQ team that was charged with the task of mapping the Mesozoic and Cenozoic deposits of the Carpentaria and Karumba Basins of north Queensland.

As part of that team, Ken undertook fieldwork throughout northwest Queensland, the Gulf country and Cape York Peninsula from 1969 to 1973. Ken made a major contribution to the interpretation of the Cenozoic geology and landscape development of the region by extending the use of duricrust stratigraphy, which had been developed by Brian Senior and others in south-western Queensland.

He introduced the concept of cyclicity to the depositional and weathering regimes throughout the Queensland Cenozoic.



Subsequent weathering geochronological studies are in general agreement with the scheme that he developed.

Ken went on to apply his expertise to mapping Cenozoic deposits and regolith in central and southern Queensland. In the 1970s, this included the sapphire-bearing deposits of the Rubyvale area and the sand masses of the Fraser Coast region, including Cooloola and Fraser Island. He was one of the co-authors of *Queensland Geology* (Day et al, 1983. GSQ Publication 383), a companion volume to the 1976 1:2.5M Queensland Geology map.

In 1985, Ken's interest in karst, combined with his skill in mapping Cenozoic deposits, led to his involvement in research on the Tertiary Riversleigh fossil sites with Mike Archer and others. Ken made an important contribution through his ability to distinguish Cenozoic carbonate deposits from the Cambrian limestones on aerial photographs and in the field, thereby expanding the search area and leading to the discovery of several significant fossil vertebrate sites.

As early as 1973 he produced a report on Ashford Cave in far northern NSW, in which he subtly refuted any suggestion that it might replace (in either scientific or

recreational terms) the Texas Caves, as they were to be flooded by a dam — and they were.

In 1978 Ken prepared a significant paper on the geology and geomorphology of the Texas Caves in SE Queensland, published by the Queensland Museum. This work benefited significantly from work done on the caves by UQSS and much of Ken's fieldwork was done in association with that society which became defunct about the mid-1980s.

Through most of the 1980s, he had a roving brief as a Cenozoic specialist attached to the various GSQ mapping teams. He became the department's expert on the Cainozoic and there are very few Queensland geology maps which do not bear his name. Although subjected to friendly banter about 'mapping dirt' by the 'hard rockers' who dominated the teams, his skill in subdividing the otherwise blank areas of the map sheets was nonetheless valued as an essential input to any project.

When it came to banter, Ken could give back as good as he received, but he was always ready to share his knowledge and, apart from the many maps, reports and papers that he contributed to, his geological legacy in Queensland lives on in the influence he had on those who adopted and continued to use his approach to mapping the Cenozoic.

His scheme for regolith unit compilation was used for the Geoscience Australia's 1:1M digital surface geology map of Australia (2009).

Having grown up on a grazing property, Ken was a natural bushman and this served him in good stead working as a young geologist in Cape York Peninsula, far from assistance if anything went wrong.

In later years, he could be relied on to turn up to rescue colleagues who found themselves in difficulties, such as hopelessly bogged, hung up in some wash-out or with a flat battery or mechanical problems.

Therefore it was somewhat embarrassing for him, when mapping on Fraser Island in

the mid-1970s, his vehicle became bogged in a creek at low tide. The hapless vehicle was submerged by several high tides before it could be retrieved, eventually towed out by a landing barge.

Ken also showed resourcefulness in other situations. There is a story that Bill Koppe and Ken were camped one evening near a road west of Moura when a ute full of suspicious-looking characters pulled up and asked if they had any food. Ken said he would have a look and returned from his vehicle with a .303 and offered to shoot a kangaroo for them. The uninvited visitors quickly high-tailed back to their ute and sped off.

In the pre-GPS days and using black-and-white, small-scale aerial photographs, Ken was a skillful navigator through the featureless bush that characterises much of the Cenozoic in outback Queensland. Although tending to be quiet in the office, Ken was a good companion around the camp-fire with his dry wit, and his culinary skills with the camp-oven were legendary.

It was a great loss to GSQ when Ken left in 1990, and moved to western Victoria with Janeen. However, he undertook some contracts back in Queensland and maintained contact with former colleagues at GSQ through occasional visits and his annual, quirky Christmas epistles.

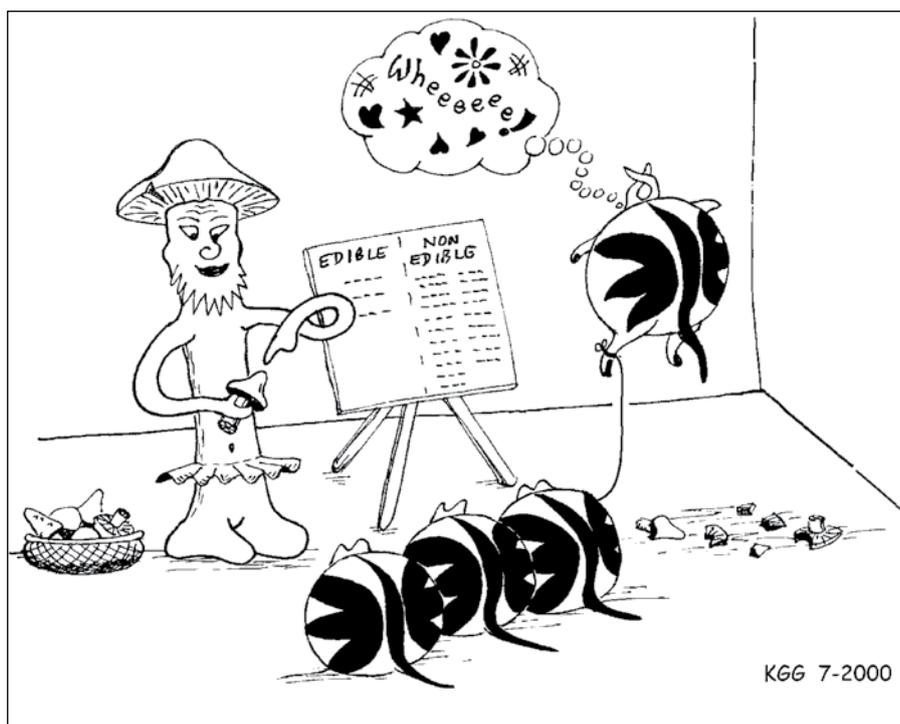
The move did have some advantages, however; he was able to specialise more on karst and had limestone and volcanic caves close by. His consulting expanded with more cave and karst work in various places: Naracoorte SA, lots of places in Victoria, Tasmania, Christmas Island and the sandstone pseudokarst of northern Australia, to name a few.

His interest in volcanic caves grew and he has been involved in exploration, documentation and working out the processes involved in basalt cave formation.

As a member of the various caving clubs, UQSS, and later VSA, CCV, and CEGSA, he has been a stalwart speleologist. He received the Edie Smith Award in 2009 for his outstanding service to Australian speleology over many decades.

He was involved in the Australian Speleological Federation as convener of the Surveying and Mapping Standards Commission of the Australian Speleological Federation, and was Queensland co-ordinator of the Australian Karst Index for the period 1975-1991.

He was a co-editor of *Helictite*, the Journal of Australasian Speleological Research



since 1999. He was also a Fellow of the Australian Cave and Karst Management Association. Many of us have copies of the well-illustrated field guides for various cave and karst meetings in western Victoria and south-eastern South Australia.

He published many papers and reports on caves and karst and was a widely respected speleologist especially, but not exclusively in the Cainozoic karst and volcanic pseudokarst areas. In particular, these include Australian cave and karst areas in general, karsts of eastern and northern Australia, tropical karren and microkarren, tropical island karst, karst hydrology, karst in less consolidated limestones including syngenetic karst, pseudokarst terminology, lava caves and wrote or edited a series of field guides to the karst & pseudokarst of southeastern South Australia and western Victoria. In 2012 he wrote for and edited the *Helictite* volume on the Proterozoic Northern Territory Judbarra / Gregory Karst, which contains Australia's longest cave system.

He published extensively on the karst in the dune limestones of southern Australia. As a Research Associate in the Environmental Geoscience group at Latrobe University, he was very generous with his time and assistance to postgraduate students.

He was a member of GSA and since coming to Victoria was a corresponding member of the Geological Heritage subcommittee with a very real interest in the geological heritage of the volcanics of

western Victoria. His talks to the Victorian Division, delivered wearing his 'volcanic' beanie, were greatly appreciated.

Ken was also a very accomplished artist. He always drew — in the margins of books and on the walls and furniture of the old homestead. His cartoons were brilliant and revealed his quirky sense of humour; some recent ones can be seen on the Hamilton Field Naturalists website. He was a keen photographer.

Ken was a wonderful person who had the ability to communicate his vast knowledge and wisdom to people right across the spectrum of scientific understanding — an eminent, witty and a very active cave explorer and thinker. He was very generous with his time and knowledge to visitors to the lava and limestone cave areas of western Victoria and various geologists needing advice. We all valued him as a great friend, very generous with his knowledge, information and well-drafted cave maps which he made freely available to all.

Ken was killed on 17 August by a falling tree on their property near Hamilton, Victoria, while clearing a couple of jammed fallen trees.

I can't believe we have lost so suddenly such a good friend and huge contributor to the understanding of the natural world.

Ken's presence will be missed enormously by the entire speleological and geological community across Australia, and especially those of us who have worked closely with him.

White-Nose Syndrome and Australian Caving

WHITE NOSE SYNDROME has devastated cave-dwelling bat populations in USA and Canada since 2007.

It is caused by a spore-forming fungus (*Pseudogymnoascus destructans*) and the disease is seen in hibernating bats.

Such bats lower their body temperatures during hibernation which lowers their immune capacity and allows the fungus to grow. This disturbs the bats' metabolism and they succumb to the disease.

Many millions of cave dwelling bats have died as a result and regional extinctions of some of these cave dwelling bat species may occur.

The US outbreak is presumed to have been introduced into caves in New York State from Europe where the fungus has been found.

The fungus has also been shown to be present in East Asia. As neither Europe nor Asia has evidence of catastrophic disease episodes attributable to the WNS fungus, it is presumed that natural selection processes led these populations to develop disease resistance.

The cave-dwelling bats in the USA and Canada had no such disease resistance from previous exposure to the fungus, and are now experiencing the disease spreading in their bat populations.

Spread of the disease occurs naturally from bat to bat and from cave area to cave area by bat movements.

Caves themselves become contaminated by fungal spores, which can be carried by human cave visitors on clothing, boots and equipment to new cave areas.



Little brown bat with White-nose Syndrome

Several long distance occurrences have now happened in the USA and this is presumed to have been by transfers by cave visitors.

Research to date shows no evidence of disease or presence of the fungus in Australia as yet.

But Australia has cave-dwelling bats, which are assumed to be highly susceptible to WNS fungus. These bats hibernate in the southern and south-eastern karst areas of Australia at cave temperatures less than 15°C.

The cave bats in question are the Southern Bent-winged Bat, Eastern Bent-winged Bat, Large-footed Myotis and the Chocolate Wattled Bat.

The Southern Bent-winged Bat should be singled out as it is classified as critically

endangered under provisions of the *EPBC Act (1999)* and has a recovery plan in place. This distribution of this bat is Southeastern South Australia and South-Western Victoria with maternity sites at Naracoorte and Warnambool.

What should be done to prevent WNS being introduced into Australian cave dwelling bat populations?

- All cavers, cave researchers, cave managers and guides from the Northern Hemisphere visiting Australian caves should adhere to decontamination guidelines referenced below. This includes attendees to the forthcoming International Speleological Congress July-August 2017
- Equally, all returning cavers, cave researchers, cave managers and cave guides who have been caving in or visiting Northern Hemisphere caves in Europe, North America or Asia should adhere to decontamination guidelines referenced below.
- These provisions apply to all such caving visitors or Australian cavers or caving professionals returning from Northern Hemisphere caving regardless of what Australian cave areas are being visited (Western Australia, Queensland or Tasmania) as spores could be transferred by other visitors to Southern or South Eastern Australian caves by other cave visitors applying a strict precautionary principle.

The ASF website has information on WNS (<http://www.caves.org.au/conservation>) and the protocols for management of WNS will be updated regularly.

17th International Congress of Speleology – SPELEO 2017

Update on Organisation

Denis Marsh

President, 17th ICS Organising Commission (a commission of ASF).

THE SPELEO 2017 ICS Organising Commission has achieved a significant milestone with the opening of registrations and call for abstracts and papers for the 17th ICS being hosted by ASF in Sydney (Penrith) in July 2017.

This world congress of the International Union of Speleology (UIS) will be held in lieu of the 2017 ASF Biennial conference.

A huge effort has gone into production and release of the all-important 'Second Circular', available on the ICS website at <https://speleo2017.com/circulars.html>

The Circular will answer most of your questions and contains much of the information about the ICS to enable prospective registrants to choose various registration options, including field excursions and merchandise.

The ICS Organising Commission recommends that ASF members visit the website and read the Second Circular to learn of the exciting program of events being planned.

The 17th ICS provides Australian cavers with a unique opportunity to attend an international speleological congress without the expense of international travel and to learn first hand of the latest advances in explorations and scientific investigation of caves around the globe.

It is also an opportunity for us to repay the generous hospitality Australian cavers have received many times over when caving overseas and to develop contacts and opportunities for further overseas caving trips.

For Australian academics, the congress presents an opportunity to get updated on international scientific investigations on karst and to show-case local advances in exploration and research of Australia's karst and caves to an international audience.

Abstract submission is required by



17th
International
Congress of
Speleology,
Sydney 2017



19 December 2016, followed by final paper submission by April 2017. All abstracts and papers are reviewed for suitability by an international scientific review committee prior to acceptance.

Registration and payment is via the online facility, accessed through the 'Register' page on the ICS website at <https://www.speleo2017.com/Register.html>

A discount registration rate applies up to 31 January 2017 after which registration increases by \$50 AUD so get your registration in before the end of January. While the registration charge may seem high compared to an ASF biennial conference, the cost is comparable with similar large international conferences and previous ICSs. Also, world class venues large enough for an ICS do not come cheap.

An exciting program of Australian and NZ field excursions (15 pre-conference and 12 post-conference) is being offered to registrants subject to interest and numbers. Full details on all excursions, including midweek excursions, can be found in the Second Circular and on the 'Excursions' page of the ICS website. There is also a partners' excursion program being organised for accompanying partners not involved in the scientific and technical sessions program.

As the ICS is being held in the middle

of the footy season, it is recommended that people interested in attending check out the various accommodation options available during the congress, as detailed in the Second Circular and on the ICS website.

Early accommodation bookings are strongly advised as these can be very limited when coinciding with home games.

The Australian ICS has been promoted to recent overseas caving conferences in the northern hemisphere.

John Dunkley gave a presentation to the NSS Convention in the US and John Cugley gave a similar presentation to the Euro Speleo Conference in the UK, with both reporting significant interest in the event from overseas.

More recently Andy Spate, Tim Moulds and Steve Bourne were able to showcase Speleo 2017 at a cave management workshop in Bandung, Indonesia, again evoking strong interest.

Attracting attendance from overseas cavers brings with it a significant risk to Australia's cave micro-bat species from introduction of the White Nose Syndrome (WNS) fungus.

This disease has had a serious impact on North America's bat populations in recent years. The ASF and the ICS organising commission are taking this risk quite seriously, not just in relation to the holding of

the ICS but also on the broader long term risk of introduction of the fungus by anyone visiting or returning to Australia after visiting caves in the northern hemisphere.

Preliminary advice on this disease has been available for some time on the ASF website and more recently on the ICS website.

The current investigations and strategy development will be based on the principle that every congress participant will be considered to be contaminated, including all Australian cavers returning from overseas. Strategies for managing this risk have been under investigation by Nicholas White, including gaining confidence in our understanding of the northern hemisphere experiences and seeking up to date information and advice on the recent Canada and US experiences.

Nicholas has joined a special interest group which includes veterinary personnel from the Federal Department of Agriculture and representatives from Wildlife Diseases Australia, so far with a face-to-face

meeting and a phone hook-up, to ensure there is consensus with any directions on strategies and protocols.

It is expected that this knowledge will be shared with other stakeholder organisations such as the Australian Bat Society and ACKMA in due course. Further advice on quarantine strategies and protocols will be available on the ICS and ASF websites in the near future and Caves Australia subscribers can read more on WNS in the article by Nicholas White in this issue of *Caves Australia*.

The ICS organising commission is already receiving interest in the presentation of a number of papers at the congress, both local and international, suggesting an interesting and exciting program.

It is expected that all the major disciplines of speleology — geology, biology, archaeology, palaeontology, exploration, exploration techniques, social sciences and medical sciences — will be represented in the program.

A general outline of the program can be

found in the Circular with more information to be posted to the website as the full program develops.

Although we have a very enthusiastic ICS organising team, there is still opportunity and need for more assistance with some aspects of the organisation of the Congress.

More volunteers means that the job load can be shared around. If you have some time and can offer some assistance, we would love to hear from you. Jobs can be tailored to your time availability.

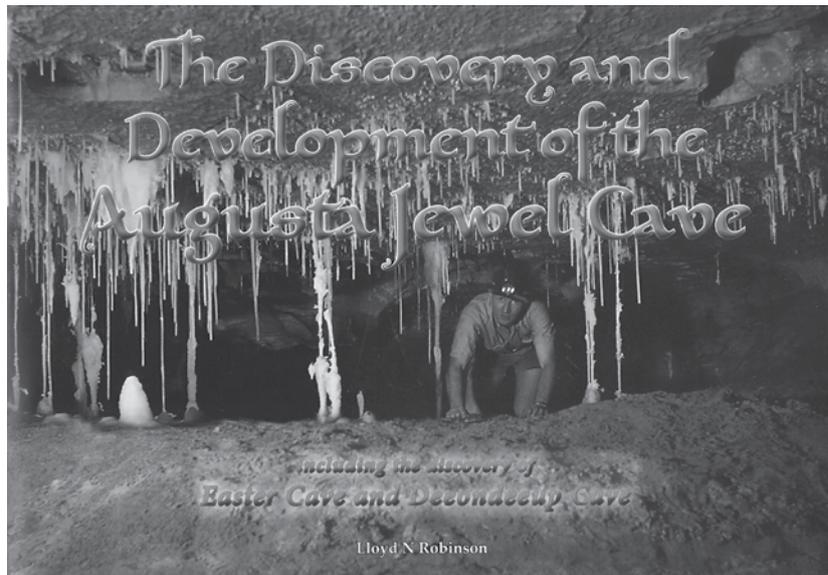
The organising Commission is keen for someone to take on the coordination of the social events program, much of which is well advanced.

We are also looking for volunteers, either a group or club, to assist a team to run a SpeleOlympics event and provide support for a rope challenge event.

Finally, we need your support and attendance at this premier world speleological event. There may never be another opportunity to attend an ICS in Australia.

Book Review

Susan White



The Discovery and Development of the Augusta Jewel Cave (including the discovery of Easter Cave and Deondeeup Cave): Lloyd N. Robinson

Published by Dorothy Robinson 2015 40pp.

This small book is a succinct and well-illustrated account of the discovery and development as a tourist cave of the Augusta Jewel Cave south of Margaret River, WA. It clearly rectifies, not before time, several of the myths relating to the discovery. The cave was rediscovered in February 1958 after being lost prior to World War I and this re-discovery resulted in the exploration of the

cave and its development as a tourist cave under the auspices of the Margaret River Tourist Bureau who have other caves they manage in the area.

This account of the discovery and the campaign to develop the cave is interesting as it shows how such campaigns were undertaken in the years after World War II; in many ways different from such campaigns now.

Similarly, Lloyd's description and details of the actual methods of the opening and development of the cave are interesting reminders of the procedures of the time. The extra information on the exploration of

Easter Cave and Deondeeup Cave is valuable and relevant to the understanding of the Augusta Karst area.

The book is well-written and extremely well-illustrated with many of Lloyd's beautiful photos, including some of youthful Lloyd and Lex Bastian. Many of these photos have not been published before.

This valuable account of Australian speleological history is recommended reading for cave enthusiasts.

Available for \$10 plus postage from Grace Matts (Grace.Matts@grg.nsw.edu.au) or Bob Kershaw (rkershaw@ozemail.com.au).

Bunda Cliffs, Nullarbor Plain

Alan Jackson
STC

AS AN arrogant, self-righteous Tasmanian I've always been of the opinion that the mainland has nothing to offer me as a caver.

I kept a clean sheet for 15 years but I am now sorry to report that I've blotted my copybook and set foot inside a mainland cave.

Of course, in truth, I only went for the above-ground scenery. That's my story and I'm sticking to it.

The Cave Exploration Group of South Australia (CEGSA) has a long association with cave exploration on the Nullarbor, mainly the traditional entrances on the plain itself but also the cliffs associated with the Great Australian Bight.

I understand the first serious cliff cave exploration started after CEGSA members hired a light plane in 1988 to fly along the cliffs and document cave entrances.

Since the late 1990s a subset of CEGSA members, calling themselves the Banunga Cavers, have been taking it more seriously and, with improving tools and technology, they have become increasingly effective and efficient.

Armed with aerial footage of the cliff faces, Google satellite imagery, grappling hooks and an infectious passion for the area, the Banunga Cavers are systematically exploring and documenting the caves of the Bunda Cliffs section of the Bight.

I was fortunate enough to cross paths with this group in 2014 and convince them I should join their July 2015 expedition.

THE COMMUTE

Despite the CEGSA affiliation, the majority of the Banunga Cavers are Melbourne-based, so it started there with nine enthusiastic participants, three vehicles and nearly 2000 km to base camp.

The first night was spent in Adelaide where we picked up the tenth member of our fellowship. Next stop was Ceduna and we finally reached base camp on the afternoon of the third day. Yawn.

Radio banter and character assassina-



ALAN JACKSON

Mieké swinging into Lejeg Cave

tion of fellow team members helped pass the time.

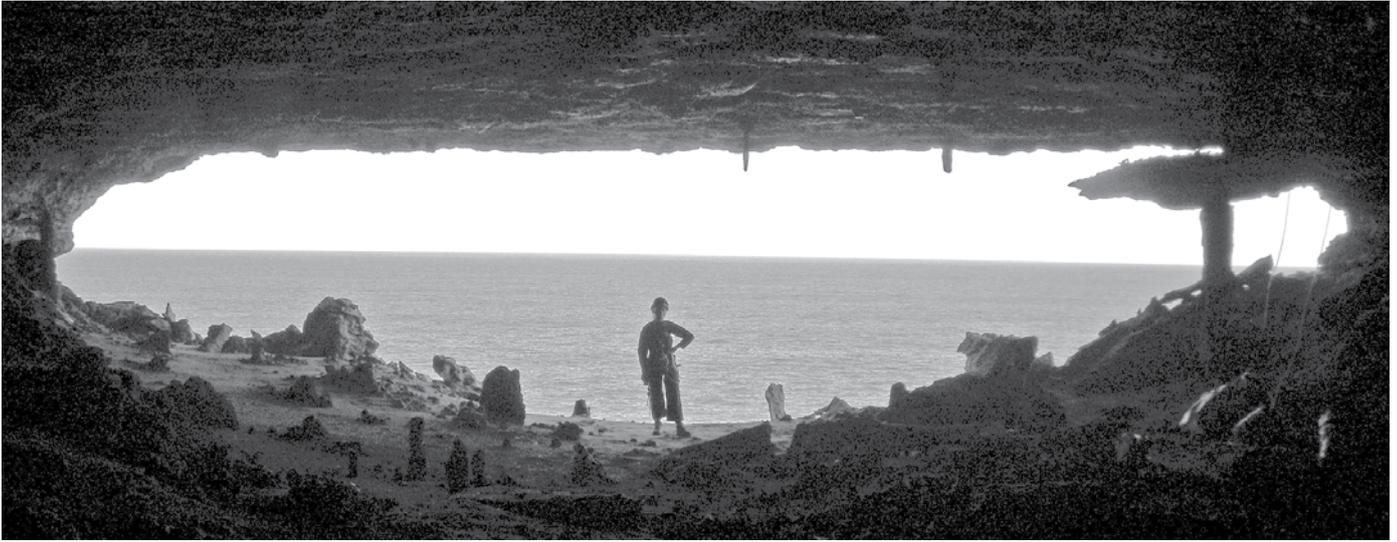
THE CAVING

The next nine days were spent locating and exploring new potential entrances located by the forensics team since the previous expedition in 2013 and revisiting

a few previously explored targets to finish exploration, complete surveys etc.

We had perfect weather the whole time, with the showers turning into rain (and even snow — in Adelaide!) only after we packed up and headed for home.

There were three principal teams for the first few days — two caving while a third



The entrance to Lejeg Cave

ALAN JACKSON

precisely located the caves and assessed the cliff edges for safe access (minimal impact approach, gardening of loose rock, avoiding overhangs etc.). As the expedition progressed the 'gardening' crew was absorbed into the two caving teams.

As with all caving expeditions we had mixed fortunes — big entrances that went nowhere, nasty entrances that yielded plenty of passage and every other combination and permutation in between.

While I can't compare this year's finds with previous expeditions, the feeling I got from the regulars was that it was a very successful and rewarding expedition with a good number and range of caves explored and documented.

POST-EXPEDITION BUSINESS

With all successful expeditions comes the sting in the tail — every metre explored is fun at the time but translates into more survey to draw up and data to file away. The team is furiously drawing up maps, processing collections and uploading data into the OzKarst database.

A good caver's work is never done, and, as is always the case, dates and targets for the next expedition are already being planned.

Chief expedition documenter, Steve Milner, is planning a comprehensive presentation of the area and expeditions at the 2017 UIS conference in Sydney, so keep an eye out for that one.

ACKNOWLEDGMENTS

Thanks, obviously, to the Banunga Cavers for dragging me along and tolerating me; to ASF for providing a grant for the purchase of some rigging equipment; and a huge thanks goes to Natural Resources Alinytjara Wilurara for their fantastic support, in particular the Ceduna team for their engagement and participation.



Stal heaven in Jharbilla Cave

ALAN JACKSON



Cliff face with Raptor Cave entrance

ALAN JACKSON

Climate Research in the Macleay Karst

Philip Holberton
KSS

THIS article has some interesting comments and information on monitoring caves for climate data collecting.

This is a joint co-operative project of KSS with Andy Baker at UNSW to further understand cave climates within the Macleay Karst Areas.

The research is now progressing and various instruments are installed in caves at Yessabah, Mt Sebastopol and Kempsey areas.

It often takes some years of collecting of data for any realistic results to be produced and it is encouraging that the Kempsey cavers are involved.

This article is put together from several trip reports from TROG sent by Philip Holberton and edited by the CA team.

Professor Andy Baker is Director, Connected Waters Initiative Research Centre, University of NSW, and Research Program Leader, National Centre for Groundwater Research and Training (what a mouthful!). Allister Gee, Secretary of Kempsey Speleological Society (KSS), met him through the Karst Management Advisory Committee of NSW National Parks.

Together they came up with the idea of some joint project using KSS local knowledge and Professor Baker's scientific knowledge, energy and interests.

KSS stands to gain by better appreciation (particularly by NWPS) of our custodial efforts, which date back to the Club's formation in 1958, and our ongoing stewardship. Andy Baker and his team already have experiments under way at Wellington and Yarrangobilly, (not to mention Margaret River in WA) so the Macleay will expand their work into a new climatic area.

Professor Baker wrote to the Club with definite suggestions on 14 April 2014.

'I've managed to finally get together some spare cave monitoring equipment, if you are interested in giving these a go at Sebastopol, to get some data on climate and hydrology.

'I've got about 10 spare drip loggers, which can be left under drips to mea-

sure drip rate. If you are interested, then I can just program them up and they will log for years before needing to be downloaded. If the caves are dry, then this won't be so interesting.

'I have some Star-Oddi micro-T temperature loggers. These are small, and designed to be inserted in fish to track them in the oceans, but they are excellent for use in caves as they are easy to hide out of sight.

'They are 'single use' loggers; once the batteries are dead, they are useless. I have a box of 24 that are in between projects and could be deployed for a year to get an idea of temperature variations in the cave.

'I've just programmed them up, and they could collect data every hour. If you are interested, we should get them deployed as soon as practicable as they will get recalled for another project sometime.

'As well as finding out more about the caves, there's a few research questions that it will help answer, so I (and the team here) are keen to be involved.

'For temperature, people assume that the average cave air temperature is the same as the surface, but it isn't so simple. It will vary depending on whether the surface is shaded or not, and also on how the temperature signal reaches the cave.

'In poorly ventilated caves, temperature changes occur due to heat movement from the surface through the limestone, which can take several years. So it is possible that the cave air temperature is from a past surface temperature.

'For the hydrology, we have no information on when water infiltrates into the limestone in the region, so it would be useful for groundwater resources more generally if we can relate the timing of dripping to groundwater recharge more widely.

'Some general thoughts about the research side of things:

'Drip loggers

'They can be spread around the caves. Ideal would be to get a range of cave locations, drip types and depths, so that it is representative data for the caves as a whole. So some under slow but continuous soda-straw type drips, others under drips that only activate when it's wet, and ideally from relatively deep locations (entrance series nearly always have a drip, as there are fractures near the surface, so measuring the water that gets a bit deeper is more relevant to groundwater resource questions.)

'For all the planning, however, it turns out normally to be an exercise in pragmatism, and the loggers go where you can be sure there is a drip, and so there's a bias which depends on what the weather was like beforehand and how wet the cave is.

'There's also one practical consideration, which is the loggers work by recording vibrations when the drip hits, so the height from drip source to logger has to be more than about 30cm, otherwise they don't have enough velocity to record a drip.

'Temperature loggers

'I think the best strategy is to have two loggers per cave, one inside the entrance, and one in the least surface-connected part of the cave (so it could be the furthest chamber, but not always).

'So the near-entrance logger would tell us something about the ventilation of the cave and how that varies through the year — I'd normally say just a few metres into the cave is the right location. As a caver, it's where you'd say the cave definitely feels like it is a cave temperature and not related to the outside.

'And the deep logger will tell us something about the long term mean temperature of the cave.

'And on the surface we should also have some deployed at representative locations, so if there is very different vegetation or land use, or

CLIMATE RESEARCH IN THE MACLEAY KARST

very different aspects, or caves that have been burnt over the surface previously.

'We normally try to get a soil temperature by burying one at about 10cm depth, and a surface temperature by hiding one somewhere where it is shaded but ventilated.

'Then the tricky bits – for the science, we need to measure air temperature, so we can't just lodge the loggers in cracks in the rock, as it would then record rock temperature. Normally, we take some fencing wire (as it's handy) or cable ties (better) to hang the loggers from something appropriate in the cave to make sure they only measure air temperature.

'They also have to remain dry, so need to be in a dry part of a cave – if they get wet then the water will evaporate and cool the loggers. And we have a poor track record of managing to retrieve the soil loggers – again I'd suggest a cable tie around them, and then attaching some string or wire to the other end so that they can be pulled out again.

'The context is that I have about 100 of these devices, about 40 are logging at Cathedral Cave, Wellington, since 2010, another 20 in the caves at Margaret River since 2011, and about 30 in the Yarrangobilly Caves in the Snowys since 2012, and we are learning about how and when the limestone recharges at each of these different sites, and how it relates to climate and geology. 'So any data from the mid-north coast would be wonderful and fill a huge gap in climate regions.

'Yours, Andy'

We considered this proposal at our April meeting and accepted it eagerly as it presented a wonderful chance for living hands-on science.

Sebastopol was first suggested as the site to be studied. It has many caves in a small area, which aren't visited that often by cavers (who raise the temperature!).

We can assume the climate is the same at the surface, and we can see how variable cave temperature is compared to the climate, overlying vegetation, past fire history, aspect, altitude etc.

In the event we chose one cave at Sebastopol and two others in different areas, Yessabah and The Castles Nature Reserve. But since all three areas are under NPWS control, we needed their clearance for any research. Professor Baker very kindly submitted an application for a research permit to NPWS on behalf of the KSS team.

We had to tread carefully in the matter of research, as we had forcefully and



Drip logger with fluoro tape

PHILLIP LARDNER

persistently criticised NPWS when their researchers killed 1700 microbats during an experiment that went horribly wrong at Willi Willi Bat Cave in 2001.

We had a particular concern, as the nursery chamber at Willi Willi was discovered by Peter Dwyer, then a member of KSS, on 10th January 1961. His immediate reaction was to warn all speleos to put off visits to Willi Willi until the juvenile bats were able to fly and feed for themselves.

KSS responded by placing the Bat Cave out of bounds from November to March. The NPWS research took place in mid-January, the worst possible time as almost all adult females killed would have been nursing mothers, and their babies, too young to fend for themselves, will have died too.

We made such a nuisance of ourselves that finally Andrew McIntyre [manager, threatened species, for the Northern Directorate NPWS] was sent to address our August 2003 meeting to try to explain what went wrong.

We finally received our scientific licence (dated 24 June, 2014) from NPWS to install and monitor temperature and drip loggers on Parks property. It runs until 30 September 2015. Many thanks to Professor Andy Baker for all his efforts to obtain this for us.

All data gatherers are clearly labeled on ~25cm of Fluoro Pink Survey Tape "JOINT UNSW/KSS CAVE PROJECT - CONTACT KSS 65677660".

Temperature loggers and three drip loggers have been placed in Queensland Cave (SC-4). The other loggers have been installed in Deep Cave (WW-31) at Sebastopol and Deep Slide Cave (YE-29) at Yessabah.

A report by Allister Gee (*TROG* September 2014) describes the installation of loggers in Deep Slide Cave (YE-29) in the Yessabah Nature Reserve.

'A break in the coastal showers allowed a late Saturday afternoon entry to Yessabah Nature Reserve to install the last of the University of NSW / KSS Joint Project Cave Data Loggers. NPWS Ranger Penny Kendall (thanks for access support) was able to leave the gate 'latched but unlocked' for us and we

drove to the old quarry area before a quick trip up to Deep Slide Cave (YE-29).

'With Glen Bowman in the lead we made good time to the cave entry. Here we noted the success of the latest round of NPWS weed control with piles of dead lantana on several bench areas of limestone including here at the YE-29 entry.

'Now Glen and Ryan Bowman scouted ahead to locate the drip points (stalagmite straws) suggested for use in the project, deeper inside the Cave.

'Here Ryan's keen eyesight was relied on to spot active (wet) straws then to watch carefully to locate the 'target' drip contact points below. I hurried off to locate free rock near the entry to build up the temporary rock support bases to mount the last three drip loggers horizontally, so the pressure plates present evenly for any drip.

'All drip loggers used in this project have been clearly identified with bright pink survey tape stating 'KSS CAVING / UNSW — Joint Cave Research — Info Phone: 6552660'.

In addition, 10 Star temperature loggers were also fitted with pink survey tape (labelled as above) and placed through the cave (three at the drip logger site well inside the cave, three inside the main cave entry chamber, two just inside the cave 'door' and two buried in soil just outside the entry.

'All sites where equipment has been placed have been photo-documented and the cave entry GPS recorded. With bright tape markers and clear labelling, KSS/UNSW hope any accidental visitor who may stumble on them will read the message and inquire of the project without disturbing the equipment or the research. The equipment used in this project would have no value outside of this research.

'A detailed record was made of the serial number of each data logger item and its location. All this took time, and we exited to a darkening sky and with a quick pack-up dropped safely off the steep hill back to the car.

'Note that this is the last of the data loggers to be placed out. One set is located at Windy Gap (Queensland Cave SC-4), the second at Sebastopol (Deep Cave WW-31) and Yessabah is the last site. Professor Andy Baker, (Director, Connected Waters Initiative Research Centre, UNSW) has thanked KSS for all our efforts to date and is looking forward to a trip to the Macleay Karst to download the Data Logger data.'

In April 2015 the report on the project was that the drip loggers at Yessabah were doing fine but that two of the three at Sebastopol were missing. The remaining one was closest to the wall (and is still working) so the others have probably been washed into the slot at the bottom of the cave. We have no-one skinny enough to climb down after them, so various high-tech methods have been suggested to look for them, such as a digital movie camera on a long stick. We are also worried about the ones in Queensland Cave, as on one of his trips secretary Allister was hit by such a storm that he could hardly see the road and could not drive above 10 kph from Kookaburra to Willi Willi, and Queensland Cave would have copped all that water.

On Friday 29 May 2015 Professor Baker was able to attend the KSS dinner and monthly meeting. Over the weekend KSS guided him to the caves where we had installed the recorders.

On the Monday they visited Queensland Cave (SC-4) and were unhappy about the security of the equipment, some of which seemed to have been moved. So they also visited Cols Cave (SC-2) to look for alternative sites.

They were right to be worried, as the visit to check on the recorders in Queensland Cave (SC-4) 26 July 2015 showed (*TROG* October 2015).

Queensland Cave is the site of a second experiment, this time to try to find out where the water which sinks into the rubble floor of the first chamber resurfaces. A charcoal detector had been left at a possible resurgence and two aluminium baking trays of fluorescein were installed in the cave.

On this trip the charcoal bag could not be found, and someone had obviously been in the cave. The first baking tray of dye, placed here on a previous visit was empty. It looked like the fluorescein powder had been deliberately scraped out of the alloy tray and laid about on the bedrock surrounding the tray, still inactivated by water/moisture.

Checking the upstream crawlway passage, we soon found the sump where the old steel gate was previously fixed across the opening.

The watery sump was dry and the second tray of dye was located, buried in the muddy floor, basically in the same condition as the other tray, with most of the dye scraped out on to the mud floor. Most of the dye looked a dark crusty orange color, still inactivated by water movement.

The group continued through the muddy crawl to the decorated chamber. At this point the drip loggers were retrieved but the



WW-31 pressure-temperature logger

Star Oddi temperature loggers were left in place. An attempt to retrieve any recorded data will be carried out as soon as possible. It is hoped that what has happened to the bag of deactivated charcoal can be found out in due course.

At the end of August 2015 Professor Baker sent some more advanced equipment to study and record other parameters. On 4 September 2015 Glen Bowman and Tony Waters installed the new climate station equipment (*TROG* September 15) as KSS had been approached, again by the UNSW, to help conduct further and more intensive studies into the relationships of specific internal and external cave climate conditions i.e. the measurement of the thermodynamic state of the selected caves' interior.

Each of the stations consists of a combined temperature and relative humidity (R/H) probe, barometric pressure sensor and the data logger (black box). Also included are the outside loggers which are Solinst Levellogger automated pressure/temperature loggers. The UNSW had forwarded this equipment to KSS with the loggers set up to start data collection on 1st September 2015!

Tony Waters and Glen Bowman coordinated a break in mid-week work commitments to go in and install the climate stations into Yessabah YE-29 and Sebastopol WW-31 caves. These two caves have previously had a set of drip and temperature loggers installed some 12 months ago. Meeting at Link Road at around 9.30 a.m. to sort the equipment into drip-proof plastic clip-lock storage containers and the 12V, 40 and 18 amp hour batteries to run the climate stations, they headed off to the Yessabah Quarry site for the first install a short time later.

Glen recounts:

'We decided to carry the lighter of the

two 12v batteries up to YE-29 entrance via the second and easier ascent gully.

'Approximately halfway up the gully a large dead rainforest tree had fallen down across the main access track. It had been some years since I had approached Deep Slide Cave from this gully so it all looked somewhat different.

'We had scrambled around the fallen tree to the south and continued further up the gully, not realising that we had skirted around the bluff which contained the main entrance to Deep Slide Cave. We quickly backtracked down the gully to the rock ledge below YE-29 and climbed up the short distance to the entrance.

'The first climate station kit has been installed on the main western wall of the same chamber that the previous data logger sets were in. The automated Solinst Levellogger has been hung by a galvanised wire just inside the main entrance out of the direct westerly sun. We took a couple of pictures of the installations.

'From here we both headed back down to the vehicles for a quick cuppa and then on to the Willi Willi Caves at Mount Sebastopol to carry out the second climate station into Deep Cave, WW-31.

'Having the shorter of the access walks, I carried in the heavier of the batteries. Closer to the cave entrance we observed that the thick lantana vines had been cleared away from both the daylight and main entrances to the cave.

'We quickly climbed down into the upper chamber and noted that there was a big increase in the light coming into that chamber now that the lantana had been cut away.

'We ferried the equipment down through the 'hole-in-the-floor squeeze' and began the station installation, selecting a position for the storage box on a higher narrow ledge away from a possible flash flood of the passage.

'The combined R/H probe, temperature sensor and pressure sensor box have been mounted high on the northern wall above the previously located drip logger boxes. The Automated Pressure/Temperature logger has been hung in the upper chamber high above the old timber ladder.'

Glen finished 2015 with a trip to install a replacement battery in climate station YE-29 with a flying visit on 31 December 2015 (*TROG* January 2016).

It was not without some entertainment as on leaving the 4WD about 4:30 p.m. he immediately disturbed two big goannas

fighting over a rotting possum carcass. The bigger one spotted him and bolted up the nearest tree with the possum's arse end still in its mouth.

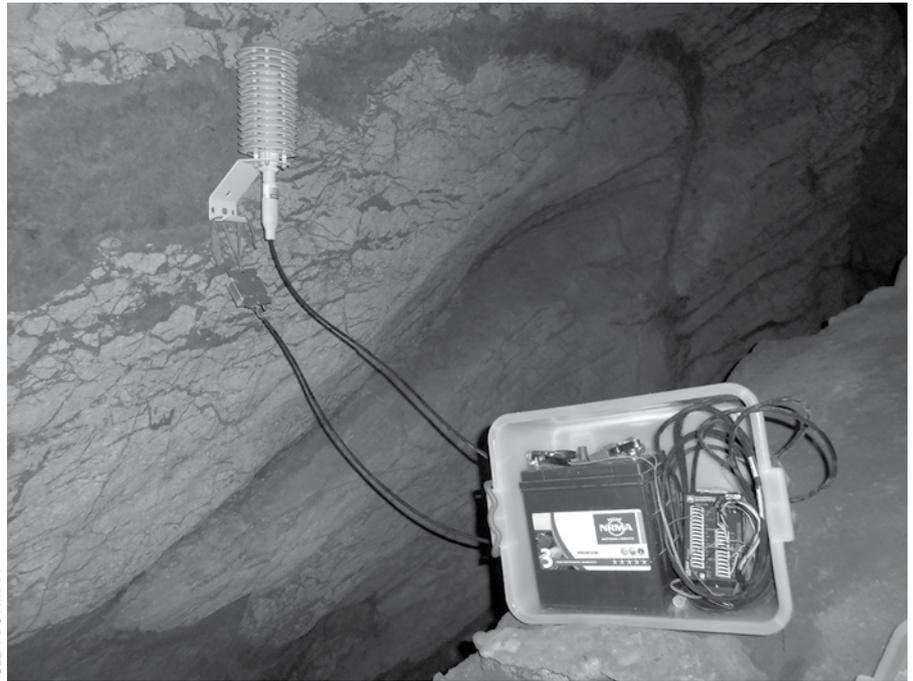
On further to the second access gully, and up the left hand rock face directly below YE-1, where he climbed down into the dark zone and said a quick hello to some bats. He took a left turn and picked up the entrance to YE-67/66, then straight up below YE-29.

On initial inspection inside the storage box, the data logger's red scan LED was still blinking away, so he assumed the climate data is still being collected. No disturbance to any of the equipment could be detected.

The original compact 12V battery has been replaced with a larger 12V small car battery. This should be able to collect data well into the New Year and up until it is time for Professor Andy Baker and company to do the first data download. The three drip loggers close by were checked and they were all still blinking.

There is a lot of drip activity and moisture in this section of the cave. Obviously, with all the recent rainfall we will be getting some good data in here. The Solinst combination Levelogger remains in position but he could not tell if it is still active.

At 5:30 p.m. he was out and packed up ready for the trip back to the vehicle. The



GLEN BOWMAN

YE-29 climate station set up 31st December 2015

big goanna was still hanging around chewing at the stiff possum, now back down on the ground below the track.

On 9th July 2015 Professor Baker gave a presentation for the Australian Environmental Isotopes Conference, and the participation of KSS was specially acknowl-

edged in his paper. He also sent Allister a personal message of thanks, saying that without us his research would not have been possible.

Now it will be very interesting to see what our data shows, and how our results compare with those from other sites.

A new NZ canyoning guidebook

AS THERE are plenty of cavers who also go canyoning, *Canyoning in New Zealand* by Dan Clearwater is a guidebook that might be of interest to many ASF members.

It is currently the only guidebook to canyoning in New Zealand and covers just about all aspects of the activity in New Zealand. It is now available from KiwiCanyons.org

The new guidebook is A5, with 464 pages

packed with full colour maps, photographs and canyon diagrams, including canyon overviews, access maps, canyon topography (cross sections) and water level recommendations for the more popular canyons. There are many other sections such as history, ethics, geology and technique that make the book a great resource about all aspects of canyoning in New Zealand.

The book covers all of New Zealand's classic descents: 51 canyons are featured

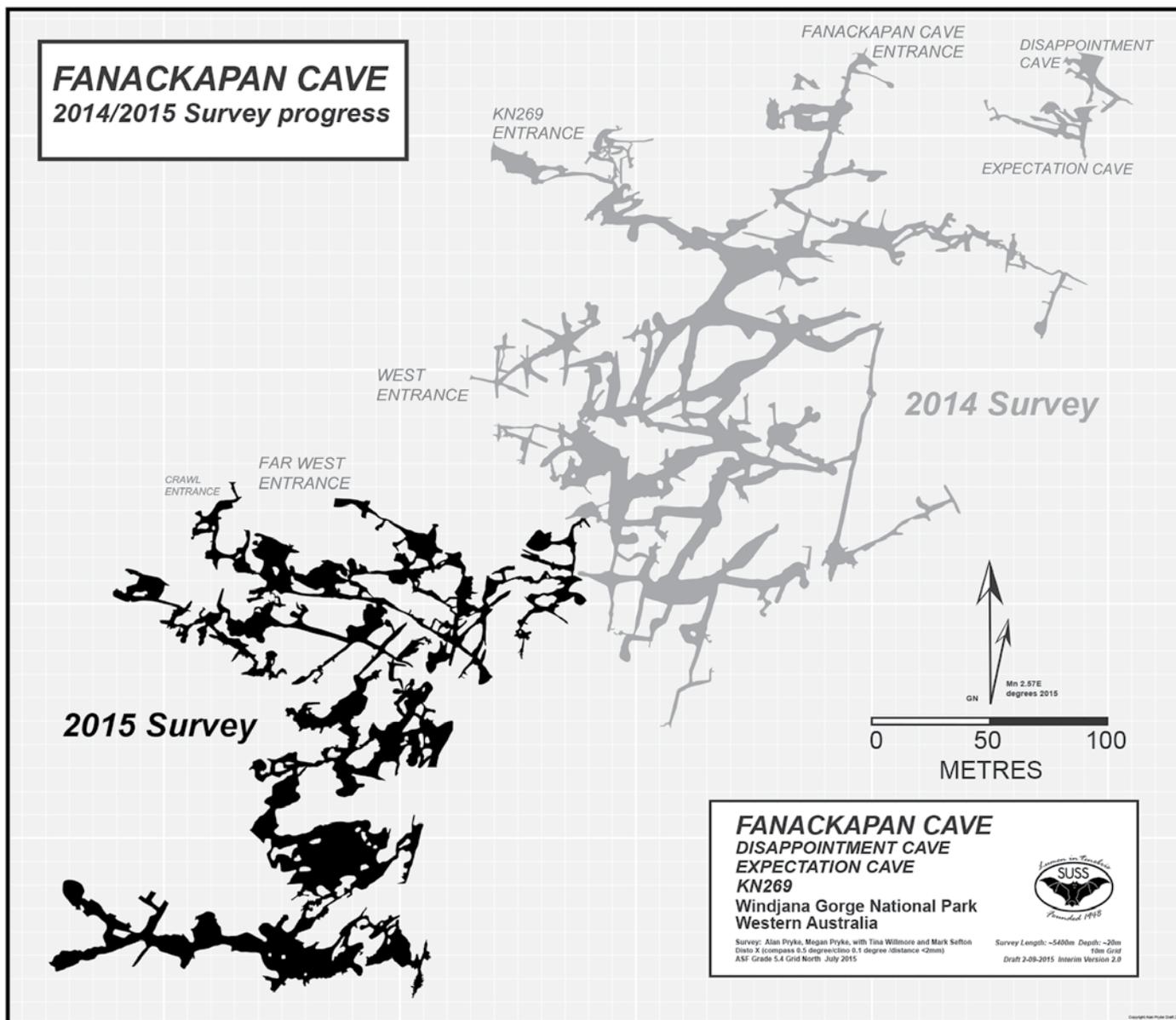
with full descriptions. In addition, more than 100 canyons are given a brief mention at the end of the chapters.

These form a historical record of canyoning in New Zealand and a starting point for the experienced and adventurous to venture into the wildest and most remote canyons.

For distribution enquiries, contact sales@kiwicanyons.org. There is also a Facebook page.

Windjana 2015

Alan Pryke
SUSS



LAST YEAR (2014), as reported in *Caves Australia* 199, a major cave system was found in a remote part of the reef limestone of Windjana Gorge National Park — Fanackapan Cave.

A decision was made to return in July 2015 to finish up the cave mapping, as some tempting, but difficult leads remained.

A team of four cavers — Megan and

Alan Pryke, Tina Willmore, all of SUSS, and Mark Sefton of CEGSA — arrived nice and dusty at dusk, checked in with the staff, and set up camp for several days.

Armed with information of a faster way up through the cliff lines, the team struck out for the precipitous climb of the magnificent limestone cliffs.

The group quickly located a known cave entrance high in the cliffs (KN73)

that could be used as a shortcut to the plateau top.

The plateau entrance was found on last year's trip, although the way through to the cliff entrance remained elusive.

Soon after entering the cave, familiar passage was found, which led us to the inflow entrance on the plateau. This shortened the substantial plateau walking to just a few hundred metres.

The group made their way through the difficult spiky terrain, heading for the western entrance of Fanackapan. Alan decided, although carrying a GPS, not to bother using it as a karst valley would lead them to the cave.

Or so he thought...

Instead, the group found brief shade in an unknown grike. After a quick look around, Alan noted that a narrow cave passage ran off to the east here, so the decision was made to begin mapping the new find.

The passages found after the tight entrance were reasonably large, and some good formation was found. In a daylight hole spiders with very complex three dimensional webs were seen, and the group referred to them as 'galactics' due to the spiralling webs.

The group were using Alan's geo-referenced mapping sheets.

After beginning the survey from a good GPS location, they found themselves heading east towards Fanackapan Cave, still some distance away.

After various travails, such as Tina being eaten by a dust monster (a particularly soft floor), prickly cave coral climbs that tended to disrobe them, usually in tatters, major leads that suddenly dead ended, and mazes that had the group going around in circles, when, late in the day, they found themselves very close, in fact almost overlapping the previous year's Fanackapan map.

One lead remained — Tina had found a tiny squeeze with a good breeze, which, when grovelled through, took them to an awkward low squeeze passage that ended up in a climb to a window through which a chamber could be seen: Fanackapan!

After a few cheers, a connecting station from last year's trip was found. This connection would have been unlikely to have been found from the Fanackapan side, looking like a divot high in a wall. This made the group wonder about other connections.

Over the next several days, Megan and Alan continued mapping the leads in the new western section, through chambers loaded with odd decoration, including 'furry' formation bosses.

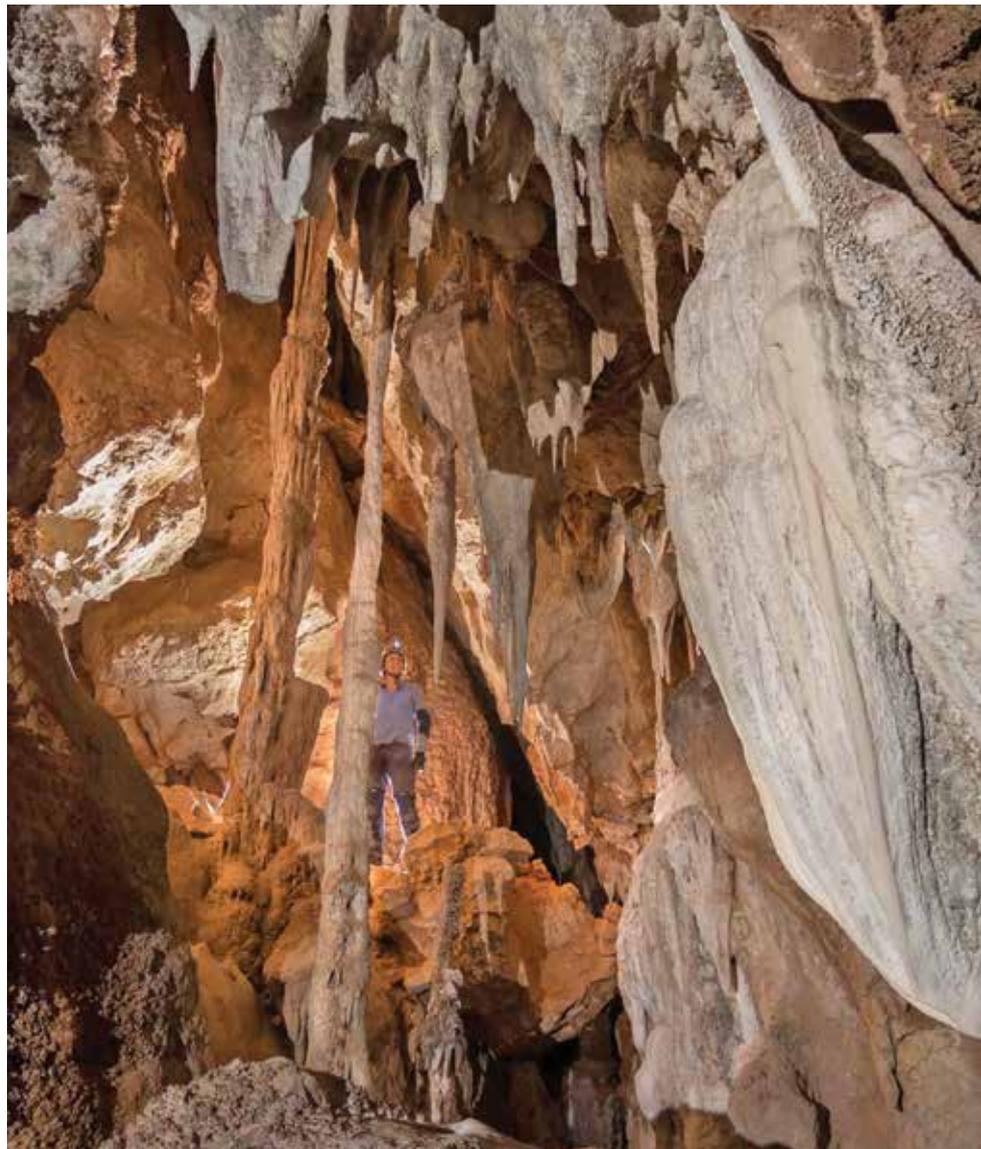
Just as the cave leads dried up late one day, a breathing phreatic tube above their heads was found, and Megan squeezed up into the tortuous squeeze passage ('Finicky Phreatics'), which opened once more to walking passage.

The following day saw Megan and Alan push on with the mapping, excitedly finding rooms with good decoration, and at day's end discovered a 50 by 30 metre



ALAN PRYKE

Fanackapan



ALAN PRYKE

Tina Willmore amongst large decoration, Fanackapan Cave



cave passage

chamber, gloomily lit by two small daylight holes. When the return to the room was made the following morning, the daylight holes gave the room a totally different look, with sunbeams bouncing from the dusty floor adding orange tones to the walls and roof.

After finalising the mapping here, again, one lead remained, which dropped down an awkward prickly vertical climb to a deeper, larger chamber, with daylight penetrating through small roof holes.

This was the final day at Windjana, and mapping proceeded to the southeast, with the cave passages changing to sponge work — a matrix of impenetrable tiny holes.

The way west, however, was a large rambling passage with large decorations including a good example of a cave shield. Time ran out here, and some large passages remained unentered awaiting our return, one of which Alan referred to as 'The Carlsbad Passage' — perhaps a bit over-enthusiastically as the passage was garage door sized.

On the final return trip to camp, in late afternoon light, a very large death adder was bumped into, sitting high on a thicket of spinifex grass.

A while after the trip, it was noted that there had been a discovery of a new variant of death adder in the Kimberley. Seems like they'd bumped into one.

To wrap up, a very successful trip and a major extension to Fanackapan has lengthened the cave survey so far to around 5400 metres.

None of the leads the group were going to follow up from last year were entered, and remain for a future trip.

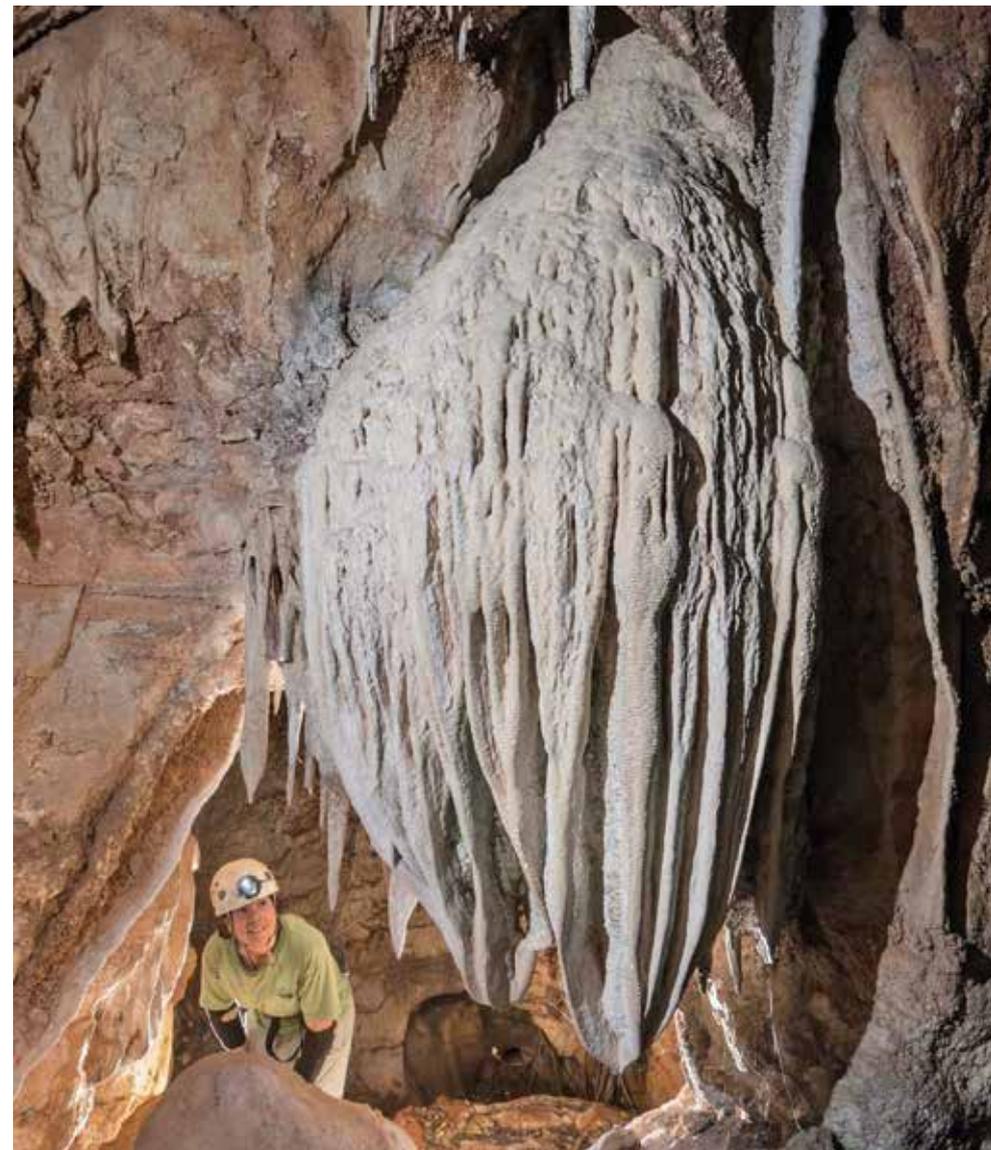
You may be wondering what happened to Mark and Tina.

They decided to spend the trip mapping KN73, and discovered old flagging tape here and there, encrusted with calcite.

No map of the cave is known to exist, so they continued their efforts, including a ladder climb into remote sections of the cave, which kept them very busy for most of the trip.

More work needs to be done there, too. Alan and Megan also did some mapping to the east in this cave which may, with luck, connect with Fanackapan, although a vegetated valley in the karst separates the two. Stay tuned!

The group would like to thank WA Parks and Wildlife Senior Operations Manager Dave Woods and the Broome Parks office for issuing the necessary permit, the Bunuba people — the traditional owners — and all the staff on the ground at Windjana, including Henry Corpus and senior ranger Rod O'Donnell.



Megan Pryke with large decoration, Fanackapan Cave

ALAN PRYKE

Almost: a tale of two cave dives

Keir Vaughan-Taylor
SUSS

MURRAY CAVE TO RIVER CAVE

SUSS visited Cooleman Plains River Cave in 1968 during a severe drought, discovering that the main river in was gone. A rough survey produced at that time would have been lost except for an unsigned letter from trip leader, Hugh Wright (maybe) to Joe Jennings outlining their explorations and including a map.

Alan Pryke's nagging about this map finally drew our diving attention to the downstream River Cave sumps, revealing beautiful and extensive cave sections joined by a river belonging to the main drainage that finally makes an appearance by surging out of the ground at Cooleman's Blue Waterholes.

We explored the River Cave waterway to where the river disseminates into seemingly impenetrable boulder piles. We had to be very close to joining into Murray Cave.

Our surveys indicated we were shy of the back of Murray Cave by 30 metres. In re-examining Wright's framework survey and his annotations, we noted his last survey leg penetrated the final rock pile by about 20 metres. A minor annotation referred to not one but three rock piles.

Phil and I set off to dive Murray Cave, optimistically hoping to be at the rock pile at the same time as Rick and Jason approaching from the other side; not that likely because they were also helping Rod into Altimera Passage with his dive gear, on top of which no-one had a watch.

The first sump is a frosty 20 m long swim in a sizeable passage. Water in the first Murray sump is really cold — much more so than other Cooleman swims — and the water is cold everywhere at Cooleman. The first Murray sump is long enough, silty enough and twisty enough that in my view, it should be treated respectfully. Having said that, at least one person I know claims to have free-dived the sump, an enterprise that gives me the shudders.

The second Murray sump is usually just a wade in the water under an overhanging



KEIR VAUGHAN-TAYLOR

:Rick Grundy and Soo Parkinson on the way to River Cave's end

black basalt dyke into a room where the active river is seen for the first time, flowing from an upstream passage into a small lake.

Out of the lake, flow enters a hole sandwiched between the dyke and an orange marbled wall. Down this Second Sump Hole is an unknown water course that will make its way to the Blue Waterholes several kilometres away.

Nicole Gorge crosses Murray's entrance roughly at right angles to the main passage. Turn right down the gorge and about 1.5 km away Cooleman Main Cave is encountered. Popular campfire conjectures paint this cave as an historic remnant of the main water course. Speleo trips have searched fruitlessly in the rock piles of Cooleman Main, hoping to find a way down to the underground river.

A contrary opinion is that the river immediately crosses Nicole Gorge and beelines for the Blue Water Holes resurgence, not following the gorge at all. This conjecture is strengthened while walking the trail back to and from camp, as significant dolines describe a more direct route to the resurgence.

Murray's second sump hole would be

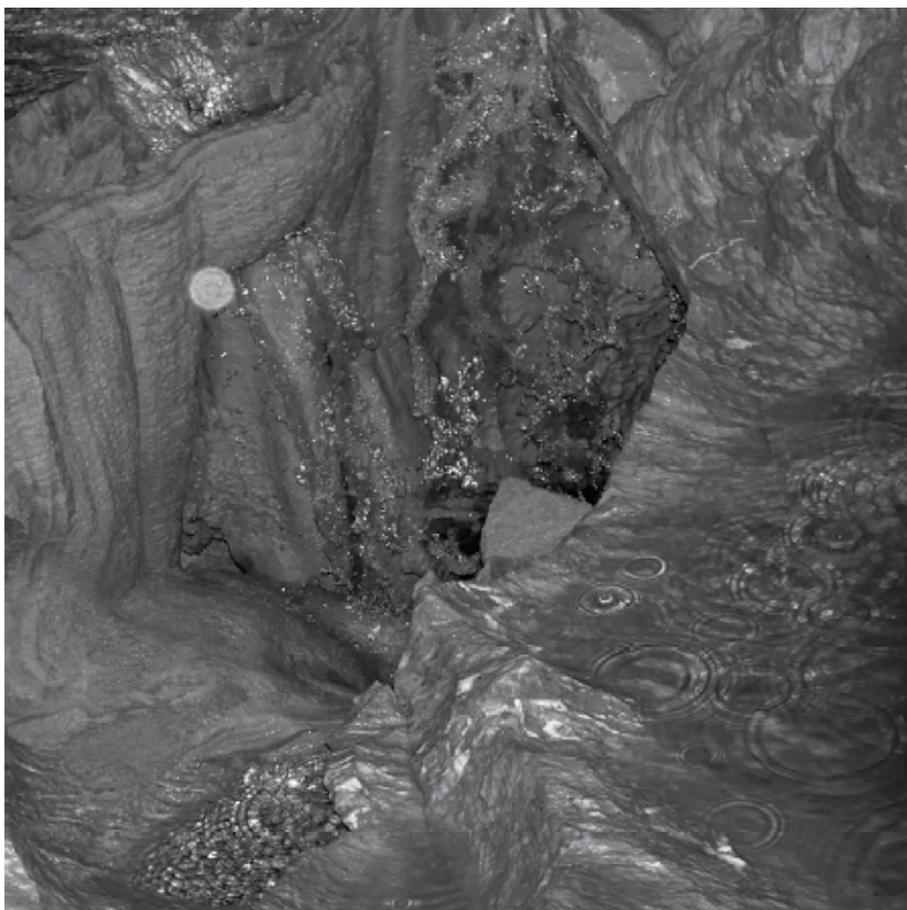
where we would like to succeed with a push because the watercourse from here to the River resurgence is unknown. There should be lots more cave along that water course.

Since my last visit to the second sump, there have been changes where the water has receded into a deep hole. The hole, bigger than it used to be, was not quite big enough.

Enthusiastically, both Phil and I had a go at squeezing feet first into the hole and feeling out into the space underneath. Taking turns, we would lower ourselves into the void, each time slightly deeper than the last. Large, rounded, river-worn boulders wedged into our surrounds were not necessarily secure.

Neither of us was prepared to risk a complete underwater experience because there were loose rocks in the 'ceiling' of the down hole 'room'.

We would wait, partly transfixed, for turbid swirls to clear whence we could peer deep into the hole. It called to us, teasing us with the notion it was our only lead to the course of the river downstream from Murray. Perhaps a camera on the end of a selfie stick would reveal more.



Waterfall above Downstream Sump

After wasting far too much time we made our way upstream to the third Murray sump, also formed along a steeply intersecting dyke. It is best to use a tank since the sump kinks back at a confusingly acute angle along the strike of the dyke. There is a taut rope through the sump that gets caught up in the knobbly bits. Entering the water, Phil's regulator failed. With his air tank valve turned on, his regulator would free-flow and it could not be coerced into operating correctly. The duck under is just complicated enough to be un-enjoyable without an air supply. He decided to sit this one out. Phil had his second tank stationed back at the first sump, so he could get back okay.

I elected to continue to the back of Murray on my own, where a terminating rock pile issues a steady flow of water. This is where the connection to River Cave should be. At the very back a collapsed passage on the right may be explored for a short distance. With helmet removed and turning upside down into a downward hole, thin streamlets can be seen wandering through the rocks, but not into anything Keir-sized.

A very muddied water flow was emerging from the end rock pile and I could tell the River Cave party was active, but how far away? We had dallied too long coming in and might have missed the other team. With my best cooee, I shouted into the

spaces between the rocks. Alas, no reply.

I squeezed into and along the water, estimating another 15 m from the end of the survey. Following the water, I could see through into a small environment of orange marble where the shallow stream threaded around some sharp limestone blades. The squeeze was possible, but hard work. In consideration of Phil sitting in wait, and not knowing how far the connection might or might not be, this last endeavour was left for another day.

MEANWHILE ...

Rick Grundy and Jason Cockayne, divers in our team, were at the River Cave side of the rock pile. Rick was of the opinion there was no chance of getting through. Rock piles to Jason are terrific puzzles that need to be solved. Rick surveyed Jason's squeezing and grunting with skepticism, observing from a distance, arms folded and muttering, 'If you insist on looking so hard then you should at least look somewhere more likely.'

Rick couldn't help himself. His British caving gene kicked in and soon they were both up to their elbows in very cold water on the right-hand side of the rock pile. They first manoeuvred several 20 kg rocks off to one side, succeeding in creating a tight 1 m vertical squeeze into what might be a small space. It seemed to be stable.

Great care was taken to squeeze into an upper space — not a small disappointing space, however. Instead it emerged just above a stream passage.

Walk-along passage, best described as more River Cave, presented, having the same black basalt stones, and similar passage dimensions as the prior main passage. It continued for around 30 m but with no apparent offshoots and terminated at a very solid rock pile with considerably less surface area and no obvious dry leads through.

There is a pool of water on the left side of the rock pile. Lying down in this, it is possible to place one's legs through a 20-30 cm deep flooded channel beneath the wall. This feels as though it returns to air after one metre. It is possible that a skinny person may be able to wriggle through on a long, surface-supplied regulator. The surface map shows positions of River Cave and Murray Cave with a separation of about 30 metres. The extension of 30 m in River Cave and an extra 15 m in Murray Cave mean the two caves are within survey error of connecting.

Reflecting once again on the 1969 map, the end description is different to what was observed. Wright says in his letter: 'The river disappeared into an earthy, crumbly passage.' Possibly floods have changed this but then, there is the mention of three rock piles. So we are almost there. Next time, equipped with watches to synchronise two teams, we have a strong chance of making a connection.

TUGLOW CAVE: THAT DOWNSTREAM SUMP

Tuglow's downstream sump, with its deep blue scattering of light, has tantalised countless speleologists; waterfalls above spraying and soaking visitors and speaking to us of how there must be more of this beautiful cave.

A Tuglow trip requires 4WD river crossings to a camp site, tents, sleeping bags and then a hike to the cave entrance. The cave trip presents rock piles, pitches, ropes and ladders to a river passage and a waterfall pitch into the final pool — not easy to dive, but always a highly rewarding trip.

I dived Tuglow's sump many years ago, exploring in the wrong direction. Some years later I supported Ron Allum diving the sump. Ron tied off in a horizontal passage prior an impassable gravel choke.

Revisiting this dive with Rod O'Brien in January this year, we set out to pass the gravel choke. The initial underwater shaft drops almost straight down to 27 m, where there is a flattened space with possible leads. Down what looks like a vertical solution tube is the onward path. It drops into

KEIR VAUGHAN-TAYLOR

the roof of a tunnel going in two directions at 33 m depth.

Rod was to survey, sportingly giving me the opportunity to push. The initial pool drop was straight down. On my descent I tried to take photographs but I could not turn the flash off. Each picture on the viewing screen on the back of the camera showed as a blurred mess, caused by backscatter from the flash. After failing in attempts to step through the camera menus to find the turn-off-flash setting, I gave up on photos because I was silting up the shaft.

As before in the bottom room there was a vertical tube, perhaps 1.5 m in diameter. I descended through the tube, dropping into a horizontal rift. The existing line had been placed by Ron Allum and tied off about 15 m along the rift. I connected to the end of the existing line and finned another 10 m to a gravel constriction.

Gravel is carried by strong flood currents and piles up, stalled by gravity, upon a steep upward rise in the floor. In the absence of nature's force, loose gravel in the squeeze can be scooped behind, helped to some extent by gravity.

After a little work I could make my way upwards to an upper level, but the effort is expensive with air consumption. At 27 m the visibility clears, from where there is a clear way on.

This elevated passage is flat, perhaps 2.5 m wide and 2.0 m high. The conduit continues in the same direction, disappearing into the distance, further than my light could reach.

I moved 10 m or so along the passage. A tie-off point was secured with three slipknot loops on a slight, gnarly lump in the side of the passage. Back at the surface beginning the dive, temperature was a balmy 15° C; after the 33 m descent and the horizontal rift it cooled another two degrees. At the tie-off it was a chilly 11°C, combined with a running current, water-chill factor. It was time to return. Happily there is plenty of room to turn around.

Squeezing back through the excavation is a tactile experience with the local squeeze environment remaining silted, despite a current flow. A way back through the constriction is on the left side, facing upstream. The wide passing space can be discerned by feeling for voids with an outstretched arm. At the lower room I passed Rod still trying to survey in visionless conditions.

Turbid water, largely my fault, made Rod's surveying difficult. He could hardly see his notebook, let alone his compass. Nevertheless, he had added another 15 m to the last survey, making measurements and diagrams of passage widths, shapes and trend-directions by physically feeling the



KEIR VAUGHAN-TAYLOR

Rod O'Brien returning from dive

size and shape of the environments. Rod finished his dive shortly after I did; both of us were chilled and ready to warm up on the climb out.

With Rod having surveyed underwater into the bottom of the main shaft, the difficult part of the Tuglow underwater survey was done. A future trip can more easily make it into the horizontal passage beneath the 'solution tube'. This passage is straight and silts less easily so survey legs along this conduit should be easier to record.

The sump surface is about 20 m above river level with the resurgence at a similar level. At 33 m our underwater avenue should be beneath the level of the Kowmung River, maybe 8 m. It is likely to be running parallel to Tuglow Bluff under the Window Cave valley and emerging at a cliff face resurgence about 20 m above the Kowmung River.

The last tie off, at 27 m, represents the distance the conduit will have to rise to balance the column of water back at the sump. There may be another surface where a diver can get out and, hopefully, there may be more of Tuglow Cave's spectacular formation prior to the Efflux at Waterfall Cave.

Just before and above the downstream sump is a small entrance into Trickett's Tunnel, an elliptical flattener. It is decorated with signatures from two centuries ago, including the ubiquitous Voss Wiburd and Edward signatures, as usual displayed on a nicely-framing flowstone.

Once a major flow passage, it often presents a breeze and trends in the direction of the resurgence. It snubs out in a tight squeeze only for small persons and then another squeeze after which Trickett's Passage goes on, but no-one knows where.

Maybe the diving will find the other end.

Tuglow's resurgence is somewhat prosaically named Waterfall Cave because inside its tight rock pile there is a 1 m waterfall giving completely the wrong impression. I visited this karst feature many years ago but could not get in very far. My fellow cavers were able to slip through the smooth river boulders a little further than I could manage.

Window Cave is a small but delightful cave in a valley adjacent to Tuglow's main entrance. It has a voice connection into Tuglow somewhere above the downstream sump. This means the start of the dive is already at the edge of the adjacent valley. Geology maps show a resurgence 100 m horizontal distance from the sump. (The other caves at Tuglow, SUSS Bull 32 (4):5).

I conservatively estimate the distance we have covered along the bottom passage is 40 m so there is 60 m to go, not necessarily all underwater.

Passing the gravel restriction has overcome the difficult part of the dive. Of course, there may well be another hard part to come and these caves do not give up their secrets easily. Nevertheless, it feels as though we are close to finding what this cave does. At that last tie off I was able see quite a long way down that passage.

The trip planned for July failed to get a dive because the Kowmung was flooded and we could not get the gear across. However, SUSS has applied to National Parks for a Tuglow permit this October. Rod will likely be diving and will focus solely on exploration. Enough of this surveying stuff for now.

So we are almost ready to know what lies beyond that blue downstream sump.

The History of OSS

The ups and downs of a regional caving club

Ian Curtis
OSS

SEVERAL wet days and a mountain of Sunread monthly minute books dating back to 1955, contained in the OSS Library in the shed and often scattered around the floor of the house, have led to this article.

I had intended to write a Club history in 2005 after the 50th birthday celebrations. Glen Griffith had spent many afternoons in the local library archives combing through early newspapers and had unearthed several articles fleshing out minute notes.

He and I had interviewed several past luminaries. Denis Marsh had helped compile and type up lists of past members and club positions. However, after the very successful celebrations, nothing happened. Only a short article in our internal publication, *Newsletter* Issue 1, 2006, eventuated. Since then, time has passed ...

This is the first of two instalments on the history of a NSW caving club.

PART 1

The Beginning

On November 23rd, 1954 an article appeared in the *Central Western Daily* (CWD):

'A party of nine Orange residents on Sunday visited the Cliefden Caves about 15 miles from Mandurama. The party consisted of Mr. Robert Collinge etc ... and a Central Western Daily reporter. [The caves] are said to compare very favourably with the Wellington Caves. The formation of an Orange Speleological Society is now being considered.'

Shortly after, on Saturday, January 15th, 1955, an advertisement appeared in the CWD.

'A meeting will be held at the Hotel Canobolas on Tuesday, the 18th, at 8 p.m. to form the Orange Speleological Society. All those interested in the exploration of caves are invited to attend.'

As a result of this publicity Orange Speleological Society (OSS) held its first formal meeting at the Hotel Canobolas on the 2nd of February, 1954. Five people



Caving in the 1950s

turned up and three apologies were presented. Bob Collinge was elected president and Marion Oldham, secretary. Mr. Smith of the National Bank advised the Society of his interest and promised one guinea.

The first OSS trip took place the following Sunday to the river caves at Belubula, where the party visited the hot springs. Walli Caves were visited on the 27th February. The Society quickly grew and advertised its activities regularly in the local paper.

As membership grew, trips took place to many local properties, most trips confidently led by Bob Collinge. Reports from the first three months reveal the wide local area being visited: Cliefden, Taplow Flats, Walli, Bowan Park, Euchareena and Borenore.

The new club felt its inexperience and formed an early relationship with the Sydney Speleological Society (SSS), in May of that first year inviting them to Orange 'to explore the Walli Caves... as a joint effort.'

'Members took great interest in the equipment used ... both in the use of

ladders and ropes. If [aluminium rungs] are supplied to length John Bonwick of SSS will complete the ladders for the society.'

The May monthly meeting saw a necessity for procuring rope ladders, carbide lamps and boiler suits. Subsequently two 30 foot ladders were purchased from SSS for £6 10/- each and members learned laddering techniques.

By Christmas the club had grown to 23 members and John Howes MP had become patron. Its meetings, held monthly at the Hotel Canobolas, were well attended. During the year the club had raised £46 and had spent £8 entertaining Sydney members and £9 on advertising and printing. In June it was moved and seconded that a levy of £1 be charged to purchase equipment.

The president, at the 1956 AGM, spoke optimistically of the firm foundations of the club which had friendly relations with local property owners, an essential feature as the majority of caves in the central West are on private land. Mr. Dunhill of Boonderoo and Bob Crossing of Angullong were strong

THE HISTORY OF OSS

supporters of the society and later became patrons.

In April that first year, orchardists and experienced local cavers Lionel and Lynton Selwood joined. The graffiti search in the mid 1990s reveals that the Selwoods had been regularly caving at Cliefden since 1920 — their names are recorded 25 times in Main Cliefden — and their last found signature date is 1938, in Murder. Their names have been found in many local caves throughout the Central West.

Although organised caving in Australia was only in its infancy, the club reached out to other clubs and caved with them. The records talk of SUSS, SSS, 'Wollongong', Canberra, Kreisler and Newcastle. John Bonwick, Ben Nurse, Elery Hamilton-Smith, John Dunkley, Joe Jennings, familiar names to the Australian caving fraternity, are mentioned regularly in minutes.

Local awareness of and interest in the club was growing and the May meeting debated whether there should be a restriction on new members. The club was beginning to travel even further afield and was looking at caves at Cudgegong, Cumnock, Dripstone, Molong and Cargo. A mapping officer and collector of technical data, Keith Stewart, was appointed in June 1956, and Lynton Selwood was appointed to the new position of explosives officer. Six sticks of explosives and slow burning fuse were purchased to be kept in his charge.

Interestingly, many women were members of the society, often joining with their husbands, and in some cases their children. They took part in all trips. At the July meeting it was moved by Keith Stewart and seconded by Os Geddes that 'women be invited to form an auxiliary, the fee being half price. They were to have no voting rights at meetings but full use of the Society's equipment.

'Members of the auxiliary, however, may be called upon to accept any executive position and be able to attend meetings at the invitation of the male committee' How times have changed.

Members began to cave far and wide. The Collinge family planned to visit Tasmanian caves. The club visited Wellington and Abercrombie. Two members travelled to the Nullarbor with SSS in December 1956. Roy Keenan's president's report in February 1957 told of 26 official trips during the year, the mapping of several smaller caves and joint trips with SUSS and Wollongong. 1956 saw an adoption of a club emblem, the 'Rhaetosaurus' — now renamed — a club badge and a report published in SSS *Communications*.

In the late 1950s the formation of ASF and OSS's membership are regularly dis-



The Hillbillies

cussed in the minutes. The October 1957 meeting was in two minds about joining ASF but despite concerns, OSS became a foundation member of the ASF.

The club had grown so quickly that members from a wide area of the Central West had joined. Problems with unofficial trips arose and owners were noting illegal entry of caves. The gating of caves is regularly discussed in 1958 and later that year OSS assisted the CSIRO with bat banding. Again, in July 1961, the club '... gave Dave Purchase from the Canberra Society all assistance possible in his research work on the banding of bats.' Mapping continued in 1959 and 1960 with the club concentrating on Murder and Main. In October 1960 the new discoveries in Main were named Helictite Wall and the Jewel Room.

OSS was tending to spend more time at Cliefden than other areas and OSS management of Cliefden access arrangements was supported by the ASF president, Ian Wood. 'It was drawn to attention that Mr. Bruce Dunhill now has control of Cliefden Caves area and that he is most emphatic that no-one enters the caves unless written and signed permission is given by OSS.'

Talks to local community groups were regularly given, in particular slide nights. In 1963 the Orange Camera Club visited the caves for the first of many visits over the years, with several members subsequently joining OSS.

CONSOLIDATION

The mid-1960s saw the changing of the OSS guard. Although some original members continued caving, changes in membership brought new ideas and energy. Activities included mapping and exploration, often in co-operation with other clubs such

as Kreisler, Newcastle and SSS. The club entered a float in the Orange Cherry Festival in 1965, and did so again the following year, with the theme of 'The Hillbillies'. The club assisted Barbara Dew with her bat traps in caves, making three trips with her in 1966.

Another attempt was made to bring out a club magazine and *Descent* was selected as the name from, among other suggestions, *The Caver's Whisper*, *The Dinosaur* and *The Dino*. Edited by Chris Bennett, it was published four times a year between September 1966 and March 1970. Issues contained trip reports, caving information and caving gossip. Chris reveals in these a talent for cartooning and humorous social comment.



A cartoon from the Newsletter

Over the next few years exploration continued at Cliefden, Taplow, Borenore and Euchareena. This included a series of trips digging a new hole under the transmission line. OSS assisted Bud Frank with his ANU PhD work at Borenore and Brady's Cave, Euchareena. His articles in *Helictite* recognise this.

OSS became engaged in the ASF 'cSave Colong' campaign to and lobbied hard to both State and Federal MPs, protesting

THE HISTORY OF OSS

mining rights on Colong Caves Reserve.

Records show the club snowed under with requests from Scout and Rover clubs wishing to visit Cliefden. Club members recognised the problems that untrained cavers cause but felt sympathetic to the boys as many cavers come from scouting backgrounds. Trip requests emphasised that visitors were anxious to gain their scout caving certificate awards. However, graffiti and vandalism often the throwing of mud and the muddying of formation caused by inexperienced parties) led to these groups being discouraged as a general rule. The caves, to the discomfort of the landowners, were becoming too well known. Cliefden Caves was marked on NRMA maps and local tourist maps — even on a road sign.

HARD TIMES

The minutes, brief as they are, of 1971, 1972 and 1973, reveal that OSS then fell on hard times, although it is difficult to fathom how and why. The club has no executive listed for 1972 and 1973 — possibly records are lost— though Ray Rowney continued to act as secretary and allocated caving permits. ASF fees for 1972 were waived at annual conference. ‘This resolution was carried on the basis of advice that membership of OSS had fallen to three members.’ (Miles Pierce, Secretary ASF)

So what had happened to OSS? In an interview (*Descent* #6 1984) Ray conjectured: ‘people moved away, others had growing families and were time poor, some just left ... we stayed in ASF even though we didn’t have 14 members. We were really only a club on paper. I answered all the mail for a couple of years – trip permits to Cliefden etc. Then about ’73 or ’74 numbers started to build up. By 1975 we were reasonably strong again.’

Although OSS as a club was in trouble, individual members had continued caving. The number of days spent mapping and recording at Cliefden under the leadership of Keith Oliver is impressive and OSS members were able to help out. A letter from John Dunkley, dated 27th February 1974 notes, ‘Glad to hear OSS is off the ground again.’

NIBICON (Ninth Biennial Conference) was held in NSW in January 1973 and field trips took place throughout NSW caving areas including Cliefden. CL 43 was named Nibicon Cave after the conference.

THE NEEDLES DAM

1975 saw the creation of the Bathurst/Orange growth area and the proposal to build a dam at The Needles. Nearly all the caves at Cliefden, and certainly all the major caves, were in danger of being totally

submerged. It was fortunate that OSS had regenerated. Opposition plans were quickly drafted and acted upon. The resistance strategy was framed to emphasise the need for positive action.

A joint submission opposing the dam was written with local allies the Field Naturalists. All ASF Clubs were notified and asked to voice protest; NPWS was informed; CSIRO was asked to help as we had assisted them with their bat program. The importance of the fossil record and Fossil Hill was bruited.

CQSS, long experienced in direct action tactics, advised trying for a wider audience through radio and interview; advice followed. An OSS survey team quickly completed a surface survey of the Cliefden area. Momentum was building up to save Cliefden Caves when suddenly the idea of a growth centre was shelved by a new government with different priorities. OSS thanked the Australian caving community for its support in opposing the building of a dam on the Belubula River (*Descent* #1, 1976).

Of great concern in 1976 was the damage done to the Blue Stal in Boonderoo, which led to the subsequent enforcement of limited entry. Local cavers are very sensitive about, and proud of the blue stals, which are only found at Cliefden in Boonderoo, Murder and Taplow Maze. Local cavers are brought up on stories of formation, including blue formation, being taken from the caves in the early 1930s.

No analysis was undertaken until the mid-1990s when a scraping from the Blue Stal in Boonderoo was sent away for chemical analysis at Newcastle University. Further samples were collected from Taplow Maze. Ken Turner’s paper on why the stalactites were blue found copper to be the predominant chromophore. His report concludes,

‘The colour of the blue speleothems varies from very pale blue flowstone in Taplow Maze Cave to the azure blue stalactites in Boonderoo and Murder Cave and columns in Taplow Maze Cave. This variation in depth of colour may be due to variation in the concentration of the chromophores and/or thickness of the blue layer’. (*Helictite*. Vol. #38 (1) 2002)

On 11th March 1978 OSS celebrated its 25th silver anniversary dinner attended by 75 members and their guests, including visitors from Sydney, Canberra and the Blue Mountains..

Streaks of grey did not hide the enthusiasm of memories relived over 25 years. Ian Bogg from the Blue Mountains, Keith Oliver and John Dunkley were old friends of the club and were welcomed for the work done over the years at Cliefden. Presenta-

tions were made to Ray Rowney and Bruce Dunhill, thanking them for their work and support.

Films made by OSS and UNSWSS were shown to conclude the evening. Many guests stayed over in Orange and were able to cave at Cliefden the next day.’ (John Drury T/R *Descent* #3).

The next day saw a procession at Cliefden. The local Field Naturalists joined them and Ray Rowney, Harry and Wayne Elliott and Helmet Berndt showed 50 tourists through Main Cliefden. Ages ranged from six to 70. Leaving from the top entrance a steady stream of people moved through and around Main Cliefden to the Boot Room and back up again, with some detours being taken by the more adventurous ... and we didn’t lose one!’

Digging, exploration, discovery, cleaning, training and mapping — core caving concerns — continued. Ray Rowney’s trip reports from 23rd July and 12th August 1978 exemplify what was being done.

‘The two trips ...were to follow up the discoveries of Diprotodon teeth at Canomodine following letters from the Australian Museum concerning the ‘amateurish digs’. The dig was continued under the direction of fossil technologist Garry Dargan and members of OSS and CCOG.

‘Three sites, A, B and C at the bottom of the cave were gridded, photographed and are in the process of being carefully excavated.

Findings identified so far include molars, jawbones of the Tasmanian devil, more diprotodon, large wombat, large kangaroo and a possible specimen of a mysterios, possibly a mythical cave lion.’

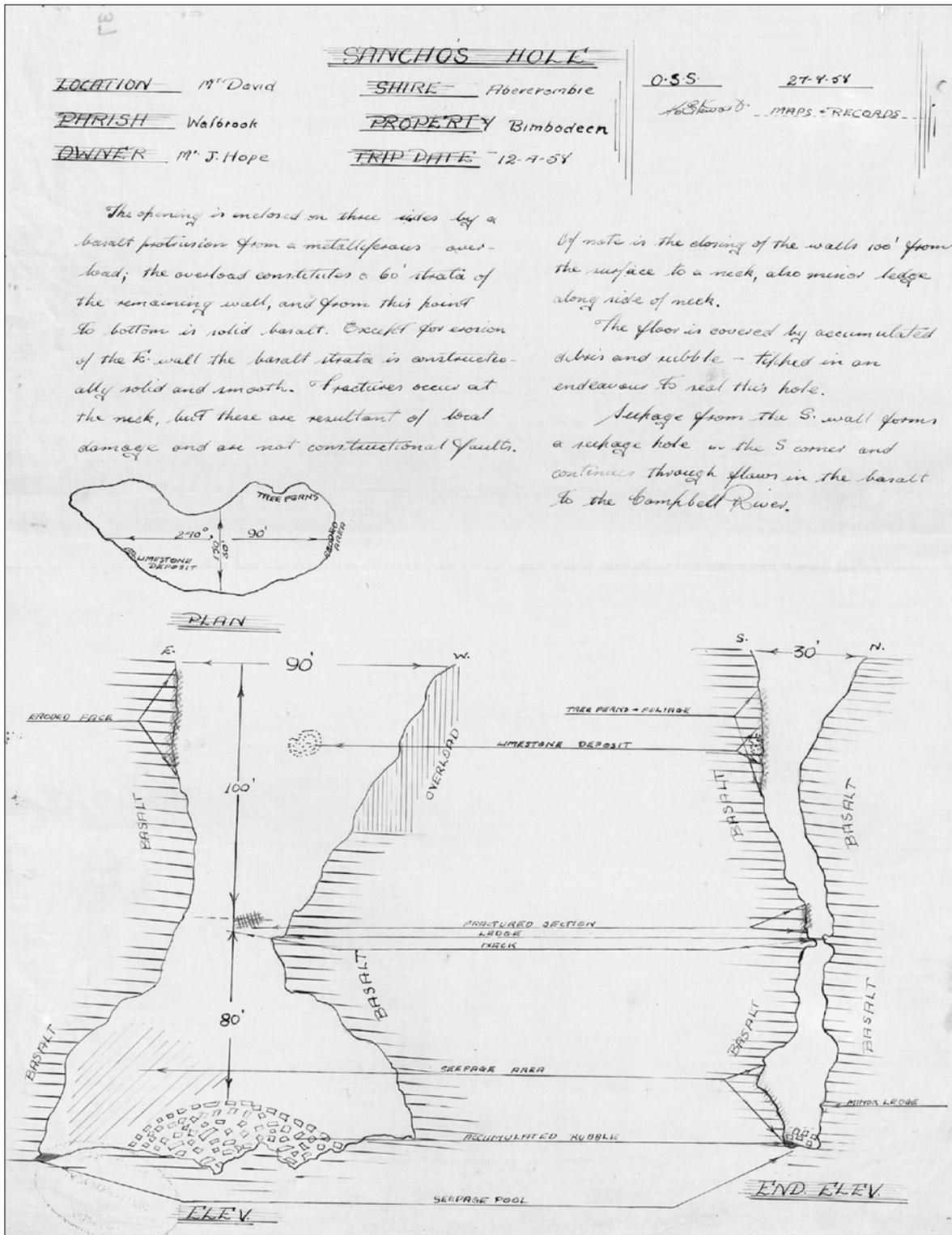
1979 saw OSS win Speleosports at Macquarie University in August, providing bragging rights for participants for many years.

Cliefden was becoming so widely known and so popular that groups from near and far were clamouring to visit. ASF clubs, bombarded for several years with exciting discoveries, trip reports and maps of the caves in UNSWSS Spar knew of the pleasures that awaited them in the Central West.

Unfortunately, cave traffic was telling on the caves, and something had to be done. 1977 saw the beginning of the cleaning program at Cliefden and OSS asked for the cooperation of visiting clubs.

Members were rostered to cleaning throughout 1980 — two hours by two teams of two people a month. Trip permits were issued on the proviso that visiting clubs, too, did two hours per trip. Track markers were laid in Main and locks repaired. A trip report by UNSWSS member, Graeme

THE HISTORY OF OSS



The first OSS trip report

SANCHO'S HOLE

Location: Mt David
Parish: Walbrook
Owner: Mr J. Hope
OSS: K Stewart 27/8/58

Shire: Abercrombie
Property: Bimbodeen
Trip Date: 12/4/58

The opening is enclosed on three sides by a basalt protrusion from a metalliferous over-load; the overload contributes a 60' strata of the remaining wall, and from this point to bottom is solid basalt. Except for erosion of the E wall the basalt strata is constructively solid and smooth. Fractures occur at the neck but these are resultant of local damage and are not constructional faults.

Of note is the closing of the walls 100' from the surface to a neck, also minor ledge alongside of neck. The floor is covered by accumulated debris and rubbish tipped in an endeavour to seal this hole. Seepage from the S wall forms a seepage hole in the S corner and continues through flaws in the basalt to the Campbell River.

THE HISTORY OF OSS

Pattison, on 25th May 1980, gives an idea of the work carried out:

'A joint OSS / UNSWSS trip was arranged to regate the Main Cave — Noonameena connection (CL 1A)...

'On the Saturday morning we formed into several groups with OSS members. One group started cleaning formations in the vicinity of the Clown Room; a second group approached the connecting gate from the Main Cave lower entrance and a third group entered from the Noonameena Squeeze entrance (CL 64).

'The cleaning party was equipped with hoses powered by a petrol driven pump and a 200 gallon water tank at the lower entrance. Brushes, plenty of water and a reasonable water pressure certainly make cleaning effective, so a good area of formation turned from grotty brown to near white.

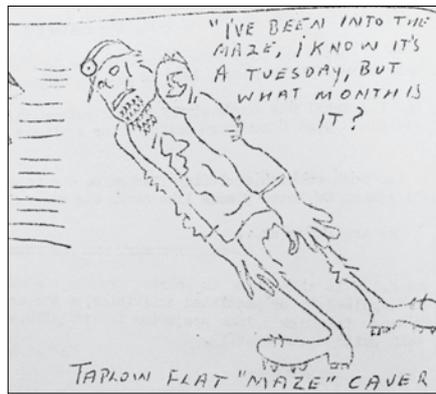
'Meanwhile the gating parties had found that the key they had did not fit the old lock on the connection gate. It was decided to use bolt cutters and a request was sent to the surface party for these via a 5 watt hand-held CB radio. The surface party replied with surprisingly clear reception, transmitting from a car-mounted CB radio located at the lower entrance.

While waiting for the bolt cutters to be obtained from Bruce Dunhill, we discovered that the gate concrete had very little structural strength and soon broke away. The gate frame and the gate were then removed in one piece. It was then decided to reposition and recement the gate. The bolt cutters arrived, were used to remove the chain, and parts of the gate were carried to the surface for welding.

'On Sunday OSS continued work on the gate cleaning ...'

As well as improving Cliefden, the cleaning program was enabling club members to meet cavers from different areas and exchange ideas.

In August 1981 a Cliefden co-ordinator position was initiated and at the 1982 AGM the constitution was amended to make this an annual appointment. The co-ordinator's task was to locate all entrances and tags, start a cave number register, check sumps, rainfall, water flow, photograph and docu-



Cartoon from early OSS newsletter (author unknown)

ment all prominent features and draw up a management proposal. The first project was to check and measure the water levels in sumps.

In April 1981, the outside world, the world of money and business, poked its nose through the door.

A spruiker for the Cowra Tourist and Development Corporation presented OSS with a discussion paper. The proposal was that OSS should form a company to take groups caving. Members would become 'shareholders' and act as guides and tour leaders. Members 'would be paid to go caving, which is what they are doing now for entertainment.'

'The demand for weekend activities is already here,' we were told, 'and the market price seems to be in the range of \$100 - \$200 for a weekend ...'

Tempting, but no thanks. OSS members did not view caving as a commercial enterprise. When the next scheme to reap riches from Cliefden arrived in 1998, the approach was much more aggressive.

In January 1983, at the ASF Conference in Adelaide, Ray Rowney and Bruce Howlett were awarded certificates of merit for their contribution to caving in Australia. Ray Rowney had been Secretary of OSS since 1971 and that year retired at the AGM.

Life membership for Ray was awarded in 1984, a year that saw a burst of energy. Former members returned to Orange and a series of freshers trips brought enthusiastic new members.

In August that year the three clubs working at Cliefden, OSS, BMSC and UNSWSS, met and talked through a management plan

for the area. A Cliefden book was discussed but the idea lapsed for lack of solid support, the magnitude of the job and the fact that the caves were on private land. One positive outcome of the meeting, though, was an understanding of each other's future plans and an agreement to work more closely in the area.

The year ended with a surprise. In November the Cliefden Caving Cottage, so carefully maintained, was no longer ours. It had been needed by the property owner for his farm worker Ron and his family, and had been requisitioned. Bruce generously offered OSS the shearers' quarters behind the shearing shed.

But what were we to do with the new caving hut? It was a shambles. It had been unused for many years and had become a storehouse. Bruce Dunhill told us its history: it had been built as a 'quick 'un' in 1932 after a fire and was known to him as the racecourse shed because of the speed with which it had been erected.

It suffered from broken walls, leaking guttering, white ants, rats, a barely working fireplace and a poor water supply. Harry the horse had wandered into the central room several years previously, attracted by grain stored there, and the door had closed behind him. By the time he had been discovered and let out, all the interior walls had been kicked out in his frantic efforts to escape.

Bruce generously told us it was ours and we could do with it whatever we wanted. So a November working bee of five people had a very busy weekend.

All the internal linings were stripped from the wall frames and shovelled outside on their way to the tip. Ron, our old caving cottage's new resident, brought down the Boonderoo fire truck and hosed out the premises. The place was clean, at least.

We had permission to strip an old house and help ourselves to any building materials we might need to fix the hut. The old house was disassembled and all usable material, stacked on the roof, and hanging out the back of the workhorse Volkswagen Kombi, Supervan, was ferried in many trips down to the caving hut. Terry Coleborne (BMSC) rewired the hut. The inside of the hut today is basically a reassemblage of Ron's old house.



17th
International
Congress of
Speleology,
Sydney 2017

Speleo 2017

Sydney | 23-29 July

**Caves
in an
Ancient
Land**

facebook.com/speleo2017 

info@speleo2017.com 

Speleo2017.com

Details about the International Speleology Congress 2017

EXTRA details are available in Circular 2 which is on both the ASF website www.caves.org.au and the speleo2017 website <https://www.speleo2017.com>

There will be no hard copy version of a registration form. All registration is via the Congress website registration page <https://www.speleo2017.com/register.html> unless specifically negotiated with the organising committee of the 2017 ICS.

Online registration has already opened and will close on 1 June 2017. Later registrants will need to contact the Conference organisers via the information email info@speleo2017.com For security, legal and insurance purposes, anyone attending the congress must be registered and display their registration identification badge.

To encourage delegates to sign up for the Congress in the early registration period, there will be a prize draw of all delegates who register before 31 January, 2017.



The prize is an accommodation and cave tours package for two people at Capricorn Caves, near Rockhampton in sunny central Queensland. Capricorn Caves has donated two nights accommodation in a two-bedroom fully self-contained deluxe cabin with continental breakfast basket, and three tours to keep you busy: the Cathedral Cave tour, the Adventure Caving tour and the Geo Journey of Discovery. Valued at \$780, this is a wonderful introduction to tropical caving in Australia. The randomly selected winner will be announced on 1 February 2017.

There are four types of registration (Congress Registrant, Accompanying Partner, Children and Day registration) as well as Early Bird and Intermediate discounts.

All prices include GST.

FULL CONGRESS REGISTRANT

- Can present a paper or poster at the congress
- Attend all sessions, meetings and opening/closing ceremonies
- Enter salon competitions
- Attend the complimentary welcome party
- May visit congress exhibition displays
- Participate in SpeleOlympic event
- At additional cost, book and attend the congress banquet
- At additional cost, book and join field excursions (mid-week, pre and/or post congress) subject to available places
- May attend any other evening social events organised during the congress
- Receives a printed program (to include all abstracts received)
- Receives a digital copy of the proceedings
- Receives the congress satchel
- Receives identification badge and certificate as applicable
- Can book space and display and or sell goods or services at the congress

ACCOMPANYING PARTNER REGISTRANT

- Can attend the opening ceremony and plenary sessions (Monday a.m. only)
- Can attend any session presented by their partner but not other sessions
- Attend the complimentary welcome party
- May visit congress exhibition displays
- At additional cost, book and attend the congress banquet
- May attend any other evening social events during the congress

- At additional cost, book and join organised and hosted partner excursions during the congress. One or more of these excursions may be offered complimentary, depending on total registration numbers.
- At additional cost, book and join the mid-week excursion but not pre- or post-congress excursions unless a full registrant)
- Receive an attendance identification badge

ACCOMPANYING CHILD REGISTRANT

Note: One child registration includes all accompanying children from 7 to 17 years of age per family. Children under 7 years are free.

- Can attend the opening ceremony and plenary sessions (Monday a.m. only)
- Can attend any session presented by their parent but not other sessions
- Can attend the complimentary welcome party
- May visit congress exhibition displays
- At additional cost, book and attend the congress banquet
- May attend any other evening social events organised during the congress
- At additional cost, book and join organised and hosted partner excursions during the congress. One or more of these excursions may be offered complimentary, depending on total registration numbers)
- At additional cost, book and join the mid-week excursion
- Subject to available places, at additional cost and subject to the approval of the excursion organiser and available places, may book and join other ICS field excursions in the company of a parent pre- and/or post-congress). Contact the excursion organiser to check if the excursion is suitable for accompanying children prior to booking
- Receives an attendance identification badge

Speleo 2017 Program

SCHEDULES & ACTIONS	APPLICABLE DATES	DETAILS
Registration opens	1 August 2016	Online registration
Early discount registration rate	1 August 2016 to 31 January 2017	Full Congress Registrant A\$450 Accompanying Partner A\$225 Children 7 – 17 years A\$165
Intermediate registration rate	1 February 2017 to 31 May 2017	Full Congress Registrant A\$500 Accompanying Partner A\$250 Children 7 – 17 years A\$185
On-line registrations close unless accepted by agreement and at the discretion of the committee.	1 June 2017	
Late and On-site registration rate; applies to all registrations accepted after 1 June 2017	2 June 2017 to 23 July 2017	Full Congress Registrant A\$550 Accompanying Partner A\$275 Children 7 – 17 years A\$205
Day registration rate, per day	Daily, 23 July 2017 to 29 July 2017	Congress Registrant A\$150/day Accompanying partner A\$75 Children 7 – 17 years A\$55
Paper & Poster abstract submission closes	19 December, 2016	
Notification of abstract acceptance	7 January, 2017	
Full paper manuscript submission	1 February 2017	
Final revisions & copyright release	7 April 2017	
Excursion bookings open	1 August 2016	
Excursion bookings close for pre & post Excursion date	15 January 2017	Bookings may still occur See exceptions
Yarrangobilly excursion closes	15 December 2016	Note: Early closure
Mid week excursions close	1 July 2017	
Merchandise clothing orders close	1 June 2017	
Conference	23 July 2017 to 29 July 2017	

Time/ Date	Morning 09.00 to 12.00	Lunch	Afternoon	Evening
	09.00 to 12.00	12.00 to 14.00	14.00 to 17.00	17.00 to 18.00 18.00+
SAT 22	UIS Bureau Meeting		UIS Bureau Meeting	
SUN 23	Registration Registration of General Assembly Delegates Opening Ceremony General Assembly		Registration	Registration Welcome Party 18.00 to 20.00
MON 24	Welcome to Country Plenary Lectures		Scientific and Technical Presentations (5 concurrent sessions)	
TUES 25	Scientific and Technical Presentations (5 concurrent sessions)	Commission Meetings	Scientific and Technical Presentations (5 concurrent sessions)	Poster Exhibits
WED 26	Field Trips		Field Trips	
THURS 27	Scientific and Technical Presentations (5 concurrent sessions)	Commission Meetings	Scientific and Technical Presentations (5 concurrent sessions)	Poster Exhibits
FRI 28	Scientific and Technical Presentations (5 concurrent sessions)	Commission Meetings	Scientific and Technical Presentations (5 concurrent sessions)	Poster Exhibits Speleo 2017 Banquet
SAT 29	Second UIS General Assembly & Closing Ceremony		Field trip departure (or as arranged)	
SUN 29	Field trip departure (or as arranged)			

Call for Technical Session and Symposia Papers

PRESENTATION SUBJECTS

All proposed presentations should be related to speleology, but can encompass any scientific, technical, cultural or educational aspect. Sessions are planned in a range of topics listed in Circular #2 (17th ICS Second Circular <https://www.speleo2017.com>).

FORMAT

Abstracts and papers should be single-spaced in Arial 11-point font, aligned on both margins, with each side margin 2 cm wide (A4 paper setting). Files must be readable in Microsoft Word.

The abstract and paper must be in English. A second abstract in one of the other official languages of the UIS (French, German and Spanish) may also be submitted with the full paper.

No indentations should be used for paragraphs, and a blank line should divide paragraphs.

The following information and format should precede the abstract:

THE TITLE OF THE PAPER

AUTHOR(S) NAMES

Affiliation(s) and address(es)

The abstract text is limited to 300 words and should not include footnotes, tables, figures, maps, bibliographic references, or acknowledgments.

Papers should total six (6) or fewer unnumbered pages.

The following sequence should be observed: Abstract, text, acknowledgments,

and bibliographic references. Maps, drawings, tables, figures, and illustrative photos must be included in the body of the paper. This paper can be in the form of an extended abstract.

Oral communications

Each oral communication will be allotted a total of 20 minutes, including questions and answers. Each poster should not exceed 1 m (width) x 2 m (height).

Posters

Each poster should contain a concise title, as well as the name, institutional affiliation and address of the author(s). It should include information about the materials and methods used, the results obtained (even if preliminary), and the conclusions reached.

The poster may contain photos, figures, tables and maps. Authors must be present to discuss their work with the other participants.

SUBMISSION AND ACCEPTANCE PROCESS

Potential presenters must submit one abstract for each proposed presentation to the submission area of the conference website by December 19, 2016.

Under the end of each abstract, submitters should indicate if they have a preference for an oral or poster presentation.

Submissions for symposia should also identify the name of the targeted symposium.

The submission should also identify the corresponding author.

Congress registration for at least one author must accompany or precede submission of the abstract.

The Science Committee reserves the right to judge the papers received, or have them judged by others; it can accept them as is, refuse them, or suggest modifications to the authors.

Upon submission of a full paper (or extended abstract), the presenter should specify the equipment necessary for the presentation; the Congress staff will attempt to meet the request.

DEADLINES

Abstract submission: November 20, 2016

Notification of acceptance: December 20, 2016

If the abstract is accepted for presentation, the following deadlines apply:

Full manuscript submission and Congress registration: February 1, 2016

Revisions and copyright release submission: April 7, 2017

Completed posters are expected to be available for display at the conference; only the abstract is required earlier.

Abstracts, papers, and revised papers submitted after the deadline and/or not in the required format will not be accepted. Papers and abstracts will be accepted and published only if the author (or at least one of the authors for joint work) has paid the full participant registration fees.

Speleo 2017 Field Trips and Excursions

A RANGE of field excursions has been organised to visit a nu of varied karst and cave localities around Australia and New Zealand.

We have endeavoured to provide a range of experiences to cater for the varied interests, budgets and styles of the people who we anticipate will be coming to the 17th ICS. ASF clubs have organised these trips and in many cases will be needing assistance.

From the tropics of northern Australia, the vastness of the Nullarbor Plain, the tall forests of the Margaret River area, the karst and caves of cool-temperate Tasmania and several excursions in the congress host state of NSW, and much more.

There are many options to see a variety of caves in an ancient land. In addition there are three post-congress excursions being hosted by the New Zealand Speleological Society.

For cave divers who have craved a chance to dive in the caves of the Nullarbor, post-congress diving trips are being organised by the Cave Divers Association of Australia. See the map below for the general locations of the trips.

There is a range of accommodation from guest houses, caving club huts, cabins and motels or tents; we've tried to cater for a range of styles. The details of the excursions are on the Conference

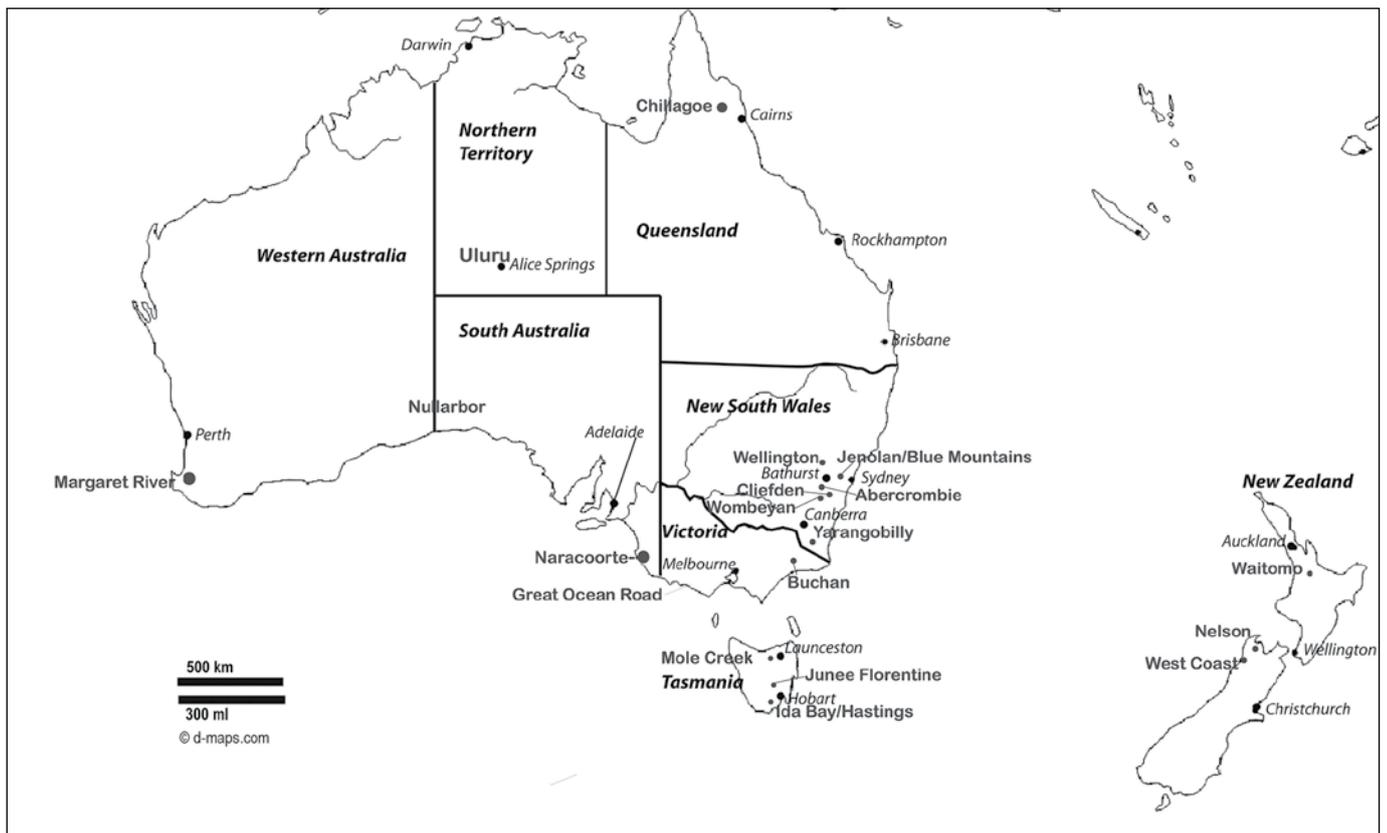
website where there is generally a summary for each excursion with a link to extended details on the website. For more details please email the leader of a particular excursion (email addresses are with each excursion) or the field excursions coordinator Cathie Plowman: excursions@speleo2017.com.

More detailed information on all of the field trips is available on the website <https://www.speleo2017.com>, It is essential that you check this extra information before booking.

BOOKINGS FOR PRE AND POST-CONGRESS EXCURSIONS:

These opened on 1 August 2016 and will generally remain open until 15 January 2017. In a few cases, there is a request to book earlier for a particular excursion. To secure your place, payments for excursions will need to be made one month from booking.

After 15 January, we will review registrations for excursions to determine if there are adequate bookings for a particular trip to proceed. We will confirm with registrants by 15 February if the excursion that they have booked is proceeding or otherwise. If a particular excursion is cancelled we will offer alternatives or a full refund of money paid.



After 15 February, you may still be able to book on to an excursion. This is dependent on that excursion proceeding, there are available places and what suits the excursion leaders. We encourage early booking to have the best range of options.

TRAVEL INSURANCE

Anyone travelling to Australia from overseas is strongly encouraged to obtain travel insurance. Everyone registering for a pre or post-congress field excursion will need to provide evidence of an Australian Medicare Card or travel insurance.

The most expensive component of medical attention in Australia is the cost of ambulance transport. It is advised that ALL participants, including Australians, have ambulance cover either directly or as part of travel insurance.

QUARANTINE

Australia has very strict quarantine laws. Please visit the site below to familiarise yourself with the necessary details.

www.australia.gov.au/information-and-services/passports-and-travel/customs-and-quarantine

Different states of Australia also have quarantine laws and restrictions designed for protection of agriculture and/or native wildlife. Please check these details if travelling between different states of Australia. www.quarantinedomestic.gov.au

Those planning to travel to New Zealand for the post-congress excursions should visit the site:

www.customs.govt.nz/inprivate/onyourarrival/quarantine

White Nose Syndrome and some other animal diseases, affecting bats and humans, are not present in Australia due to its island isolation and the strict quarantine laws.

There are guidelines in Circular 2 for the management of White Nose Syndrome in association with the 17th ICS.

Excursion leaders will be given instructions for managing the risk of WNS and all people registering for excursions will be provided with details.

Please ensure that you minimise this risk by being diligent in rigorously cleaning all caving clothing, boots and equipment before coming to Australia and complying with the specific WNS guidelines.

This also applies to Australians who have recently visited caves in the northern hemisphere, not just North America.

A list of the excursions and field camps is given below; for details see the website. Some trips are the same pre and post but others are different, even if in the same area.

Also, some trips e.g. Yarrangobilly and the Nullarbor trips have specific requirements. Please check these carefully on the website.

PRE-ICS EXCURSIONS AND FIELD CAMPS

- B1.MR Margaret River Caving—caves, beaches and forests. Western Australia
- B2.MC Mole Creek caving and Cradle Mountain Tasmania
- B3.IB Vertical caving in southern Tasmania (Ida Bay)
- B4.JF Vertical caving in southern Tasmania (June–Florentine)
- B5.YB Yarrangobilly Caves, Kosciuszko National Park, New South Wales.
- B6.SKC A taste of Australia—the karst and caves of southern New South Wales.
- B7.BM Blue Mountains Canyons New South Wales
- B8.CC Cliefden Caves—a cave system threatened with flooding. New South Wales
- B9.PK Palaeokarst and per-ascensum caves in the Lachlan Fold Belt New South Wales
- B10.WO Wombeyan Caves, New South Wales
- B11.HC Highlights of Sydney New South Wales

- B12.BU Buchan Caves & Karst, East Gippsland, Victoria
- B13.CHC Chillagoe—far north Queensland
- B14.AC Arts and Caves Tasmania
- B15.JC Jenolan Caves New South Wales
- Post-ICS Excursions and Field Camps
- A1.MC Mole Creek caving and Cradle Mountain Tasmania
- A2.SKC A taste of Australia—the karst and caves of southern New South Wales
- A3.CC Cliefden Caves—a cave system threatened with flooding. New South Wales
- A4.JC Jenolan Caves New South Wales
- A5.CHC Chillagoe—far north Queensland
- A6.ND Nullarbor Diving Western Australia (organised and conducted under the auspices of CDAA).
- A7a.NP Nullarbor Plain, Bunda Cliffs South Australia (CEGSA is inviting expressions of interest from skilled vertical cavers attending the 17th ICS to join the expedition, but places are limited. (See extra information on the conference website)
- A9.NC Naracoorte Caves, fossils and the Great Ocean Road, South Australia and Victoria
- A10.UL Uluru and Central Australia Northern Territory (This trip will be provided by the outback camping and touring company Wayoutback Australian Safaris.)
- New Zealand cavers are offering three consecutive excursions that link together, so you can choose to select any one, two or all of the excursions.
- A11.WV Waitomo and Volcanoes North Island, New Zealand
- A12.NL Nelson South Island, New Zealand
- A13.WCK West Coast Caves and Karst South Island, New Zealand

MID-WEEK CONGRESS FIELD EXCURSIONS

The mid-week excursion will be held on Wednesday 26 July. The main excursion venue is Jenolan Caves, with some alternate options for limited numbers.

Bookings for all the mid-week excursions open on 1 August 2016 and will remain open until 1 April 2017.

You must be registered as a full, partner or child participant to take part in these excursions. Details are available on the Speleo2017 website.

Jenolan Caves

We will have buses departing the congress venue from 6.45 a.m. with activities commencing at Jenolan from 10.00 a.m. Bus departures from Jenolan at 4.15 p.m. returning to Panthers at approximately 7.15 p.m.

There will be a range of activities and options available on the day and participants will be able to choose two key activities. Options will include: show caves (Four different options including a music event in the Lucas Cave); palaeokarst specialty tour with Associate Professor Armstrong Osborne; arches, air-flow and microbial interactions specialty tour with Associate Professor Julia James, Caves House history walk; bushwalk; history walk; fossil tour; possible special tour for children; and art project for the Arts and Letters Group.

Cost of the day will be \$105 which will include transport, all activities and a soup and sandwich lunch in the historic Caves House dining room.

Australian Museum

This is Australia's oldest museum and it has an international reputation in the fields of natural history and anthropology.

Transport will be via train from Penrith Station to Museum Station. We will arrive at the Australian Museum by 9.50 a.m. for coffee/tea before our program starts at 10.30 a.m.

SPELEO 2017 FIELD TRIPS AND EXCURSIONS

Our program will include guided tours of the First Australians Galleries, the Australian Fauna Gallery and the Minerals Exhibition. Lunch will be at the museum's Rooftop Café, which has views across the Sydney city area.

The cost of the day will be \$30.00 and include museum entry and activities. Train tickets, lunch and refreshments including lunch will be at your own expense.

Departure from the Museum will be at 4.00 p.m. to return to Penrith; those wanting more time in the city area can catch a return train at a later time.

Blue Mountains bushwalk

The National Pass walk, accessed from Wentworth Falls, provides wonderful vistas of the Blue Mountains World Heritage Area. The walk will be led by a local guide with an expert knowledge of the area. Numbers on this trip will be limited. Minibus departure from Panthers at 8.30 a.m. Return to Panthers at 4.30 p.m. The walk is 7 km. If time permits after the walk, we will visit another scenic

lookout point. The cost is \$50.00 and includes a packed lunch (drink not included) and bus transport.

Blue Mountains dry canyon trip

Departs Panthers 7.00 a.m. Travel will be by mini-bus and/or private cars. Return to Panthers at approximately 7.00 p.m. A (fairly) dry canyon trip in the Blue Mountains adjacent to Sydney. Numbers limited.

This day will involve a through trip that involves walking through bushland, climbing and descending steep hills and abseiling in the canyons. There will be no prusiking.

You will get your feet wet, and possibly your legs too, but no swimming will be required.

You will need warm clothing that stays warm when wet and spare warm clothes and shoes for the trip back to Panthers. A wet-suit will not be necessary. Details of skills and equipment required is in Circular #2. Cost is \$45.00 and includes a packed lunch and some snacks.

Eurospeleo 2016

Dalesbridge Centre, North Yorkshire, England

13th to 20th August

Ray Deasy
ASF member

THE LOCATION for Eurospeleo was adjacent to the Dalesbridge Outdoor Centre serviced from the A65 highway passing close by. I hasten to add that full-on awareness was needed to cross this wide fast road.

The imposing network of buildings from a time when it was an isolation hospital looked a tad small for hosting Eurospeleo. On enquiry the reply was, "Go and see the people in the next field." I saw a few tents in a large grassed field which appeared likely to turn into mud in the next rain but no answer to my enquiry.

Well, I was three days early, looked like it was a superb location. Ingleborough Mt peeps over the top of the lower limestone scars (escarpment), abruptly falling in elevation into the lower valley and 3/4 of a mile from Dalesbridge is the ancient village of Austwick with a fine pub, meals and friendly people.

Things started to ramp up with the unloading of the flooring for the venue on day minus 2 in unpleasant and persistent rain. It was now clear that contractors were filling the aforementioned field with huge marquee structures, and over the next day, and by early Saturday the 13th, Eurospeleo was ready. The blokes doing their stuff in

poor weather deserved a royal honour for their endurance.

Delegates were arriving in cars filling the field next to the marquees. Individual tents were prolific along with portaloos, portashowers and multi-urinals. The Dalesbridge buildings were now in part taken over for a lecture room, art and photo gallery, accommodation for essential volunteers and two cavers' shops. The marquees were used for meals, dining/other activities, bar services, lecture venue, delegate registration, cave preparation and scheduling, club and book stalls. Outside, a very large box frame of scaffold supported two SRT obstacle courses and a ladder endurance rig.

The choice and range of caves available was enormous at 55 and where required pre-rigged, then graded for duration, SRT, difficulty and weather. Generally transport was essential; even so after parking a vehicle there was likely a good walk in variable weather to an entrance.

The cave descriptor sheets were of enormous benefit, showing one or more cave locations on a map followed by details of tracks, dry stone walls and sometimes a compass bearing for when mist came in. A caving trip was organised by first choosing

the cave and checking a spread sheet for cavers already booked in on that cave. It was then up to the cavers to organise their transport (generally shared private), ensure their own and others competency and elect a trip leader (trip leaders were not supplied by Eurospeleo).

A supplement to trip organisation was to put your name on a white board with an offer of being a trip leader and maybe transport, others would likely join. A trip like this would already be scheduled on the spread sheet. Spannsset, an industrial rope access company supplied six kilometres of rope in two diameters. All the caves had been rigged using this rope of Swiss origin. If high water conditions were likely, the rigging was installed at a high level which led to some simple caves having technical rigs in the roof.

Once Eurospeleo was underway, the business of each day ran well. Lectures, meals, the bar, SRT obstacle course and other gymnastics were well attended. BCA had their fibre glass cave squeeze pipes in position. All children went through the squeezes but adults didn't go so well. Entertainment was a noisy rock band at night, quizzes, a mid-week dinner and a final presentation on Saturday 20th.

At one time 1300 delegates were registered. The organisers had years of experience with the annual Hidden Earth weekends held at various centres in the UK. Needless to say, there was no Hidden Earth this year.

Lectures were wide ranging and very informative, including many about caving expeditions over the world and 22 lectures were of a technical nature, anything from radio, surveying, photography, climate change, biology and rope breaking.

There was another venue: on the Ingleborough hill, the Craven Pothole Club

had set up the facilities and winch for the 110 meter descent into the Gaping Gill main shaft. Delegates were charged £5 for the trip.

With many feeder potholes you could easily go down the main shaft and ascend several pitches to surface close by. It was most instructive to listen to these CPC veterans of caving in their pub, the Trenchfoot Arms, located on the side of the Fellbeck stream close by the main shaft. The public open week was after Eurospeleo and the price of a winch ride up and down was £15. You were able to see the waterfalls around

the main shaft. On the way up the floor disappears in mist after 75 metres with daylight taking over.

Eurospeleo finished on the 20th of August after what I thought was a successful week. There were a few warm summer days and a few rainy days being the nature of the summers here.

Packing up was an intense process in rain. Contractors suffered once again and were clear by Sunday 21st. On Monday there were still a few jobs and all that remained later on were the deserted fields and yellow patches of grass.

Wonderstruck:

Treasuring Tasmania's caves and karst

By Nic Haygarth

Reviewed by Ian Curtis and Susan White

THIS most interesting book was released in December 2015.

Many of us heard about it and pre-ordered copies at the Dover ASF Conference in 2003. However, it certainly is a monumental piece of work by Nic and, as it turns out, been well worth the wait.

The book 'deals with the exploration and conservation of caves in karst regions of Tasmania during European times.' That Nic should have been able to finish such a task with so many caving areas and so much information available shows an admirable doggedness.

It is well researched and we could only find a very few and relatively small 'mistakes'.

It is very comprehensive and really does cover the history of speleology, exploration, scientific work and conservation very succinctly.

The well-written text is crammed with information and one of the pleasures of the book is the maps and illustrations, both colour and black and white, that conjoin to the writing.

Historic maps abound and photos and postcards of people and caves are on nearly every page.

This includes the beautiful Albert Goede photo of Jim Poynter during the discovery of the Pleasure Dome in Kubla Khan on the cover.

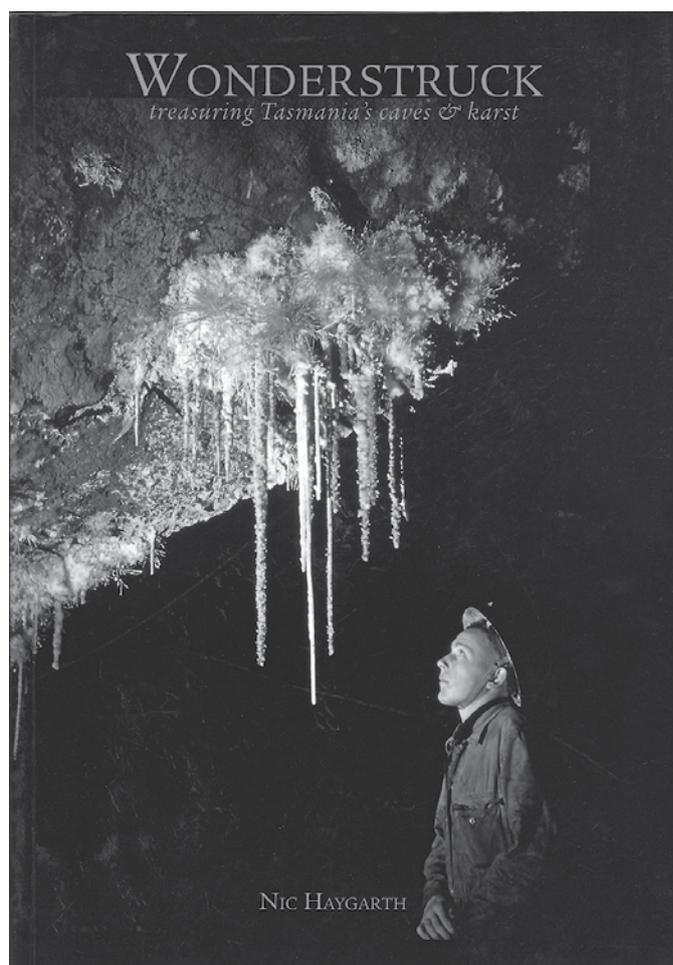
The endnotes, bibliography and index alone run to over 70 pages. Nic has pored through newspapers, national and local, and caving journals and has interviewed many cavers, cave guides, speleologists mentioned in club trip reports, even scientists.

The book reads as a Who's Who of Tasmanian cavers.

The introduction singles out Arthur Clarke for his encouragement, and thanks Alan Jackson, Greg Middleton, Stephen Bunton, Cathie Plowman, John Wylie, Ross Ellis and Susan White for their assistance. Special thanks is given to Southern Tasmanian Caverners (STC) for the club's generous assistance.

It is really heartening to see good acknowledgement of the work that cavers have done over the years and acknowledgement of their efforts.

For the non-geologist or readers who enjoy caving stories and social history this book is a good read.



If you think Tasmanian caves end with Mole Creek and Exit, prepare to be enlightened.

Available for \$54.95 (\$5 postage paid) from the author via the website <http://nichaygarth.com/>

Scurion®

+ swiss made
since 2007



© Photo: Robbie Stone

new:
up to 1'600 Lumen
with latest XML2-U2,
high CRI (>90)

your local dealer:

