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BULLETIN *of the*

Sydney

University

Speleological



Society

EDITORIAL

A new year (by the SUSS reckoning) and a new editor. Not that I am exactly a stranger to the job, having stood in for Bruce from time to time during his years of editorship. I am sure that everyone in SUSS is grateful to Bruce for all the work he has put into the Bull. This year we are starting off with a keen team - Mark Twigg (Assistant Editor) typing articles for those unable or unwilling to do it themselves, Ian Mann, Ivan Desailly, Judy Strickland (yes, and even Bruce) helping with the printing, and Paul Greenfield wrapping and labelling. With a team like that, how can we fail ? All we need is your articles !

Guy Cox

SECRETARY'S REPORT

1979

A good year. Lots of caving - new work at Jenolan and Cooleman Plain and (for some) in New Zealand. The Jenolan work was, of course "the find of the century" - Spider Cave. Cooleman, thanks to the year-long drought, has given new passage in New Year and Frustration (the former now, at last, surveyed). New Zealand was Nettlebed Cave, an NZSS expedition, with SUSS providing two members.

Almost as important as the caving - in my opinion, in a speleological society NOTHING is quite as important as the caving, was the big influx of new members. It already seems that 1980 is going to be as good as 1979 in this respect, so SUSS isn't going to disappear yet.

Best wishes to Ian Mann who takes over as Correspondence Secretary - hope he realises that it is hard work !

S.U.S.S. President's Report

The close of the 1979 caving calendar has marked another successful year for S.U.S.S.. With a high intake of new members early in the year, enthusiasm and activities have increased at a time when the society was experiencing a lull.

Enthusiasm and persistence were major contributors to the discovery of the long sought after Hairy Diprotodon in Spider Cave. A major discovery like this not only increases the amount of work that has to be done in surveying and documentation by club members, but also more importantly fills a gap in our knowledge of an area. Now the work in Spider Cave is almost completed; except for the less attractive leads such as the downstream rock pile (any volunteers?), this does not mark the end of exploration work at Jenolan. Many other good digging prospects discovered over the years may again come to light and hopefully will reveal equally exciting discoveries. But this is up to you!

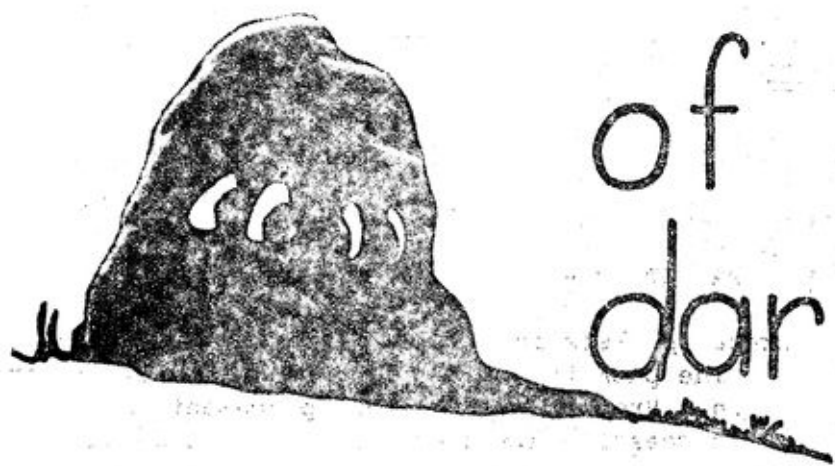
The Society has also been active in most other caving areas in N.S.W. and has discovered further passage in caves at Cooleman. Some members have also been enthusiastic enough to organise caving trips to Tasmania, Queensland, New Zealand, Great Britain and France: all of which were a great success.

Non caving activities and social occasions were also popular with members; the CUSS dinner, Skylab party, beach barbeque and fireworks display being some of the highlights (pun).

All this goes to prove that with a bit of self motivation and imagination, caving caving can be an exciting and rewarding experience and a means to travel to places in order to carry out an exciting objective. Leave the speleopolitics to those which have nothing better to do, and let's get on with expanding our knowledge in the field of speleology.

My thanks go to all the members of S.U.S.S. for helping me make the past year a success and hope your continued support will push the Society into greater heights (or should I say depths)!

Geoff Innes

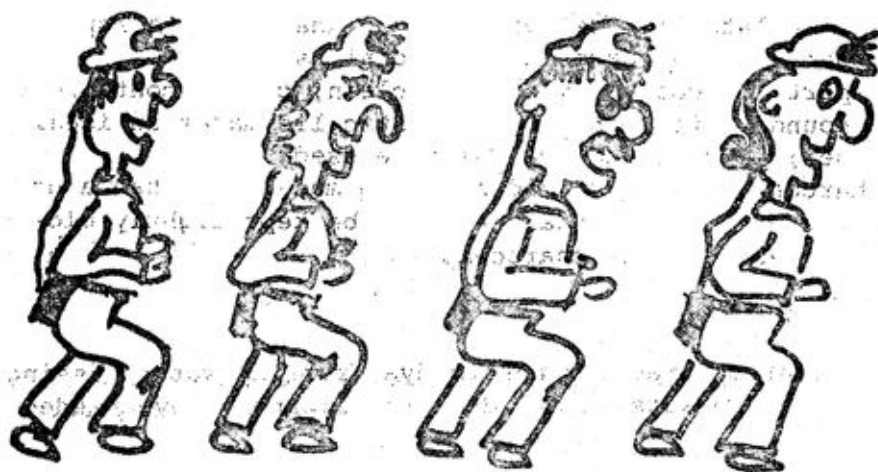


Come out
of the
dark...

to Speleosports

23-24th August 1980

Macquarie University



come
along -
everyone
else is.

CONTACT IAN MANN TO JOIN THE SUSS TEAM !

ACTIVATED CHARCOAL PACKETS FOR DYE DETECTION

The use of activated charcoal packets is the key to successful water tracing with fluorescent dyes. The packets are easily made and analyzed, and cost about twenty-five cents each. Proper construction, placement, and analysis of the packets is essential for successful dye tracing; this section will discuss these aspects in detail.

Construction of Packets

1. Packets should be made of fine mesh screen wire such as that used for window screen. Nylon screen is best, but aluminum screen is acceptable.
2. Packets should be pieces of screen wire 12.5 cm by 15 cm. The screen is folded to form an envelope 12.5 cm by 7.5 cm; the long edge and one short edge are stapled shut. Staples do not need to overlap, but must be close enough to form a reasonably tight packet.
3. Add approximately 12 grams of fresh activated charcoal to each packet and staple shut. This is about 2 heaping teaspoons, or about 3½ heaping small plastic coffee spoons. There is no need to weigh the charcoal.
4. Always use fresh, high quality chemicals. The charcoal specified in the materials section of *The Cookbook* should be used. The activated charcoal used in fish aquariums or in water treatment plants is not suitable. Assume that your charcoal, even when stored in a cool place, has a shelf life of one year. Supplies older than this should be tested before use by pouring 500 ml of water containing 1 ppm fluorescein through a sample packet. Pour at a rate so that it takes 15 to 20 seconds to pour the solution. Follow the directions given later in *The Cookbook* for analysis. A rapidly positive visual test indicates the charcoal is good.
5. Always transport charcoal packets in a clean, closed container. A clean two pound coffee can with a plastic lid makes an ideal field container; plastic bags can also be used.
6. Activated charcoal packets should never be made more than a day or two in advance. The charcoal can must be kept tightly closed.
7. Never reuse screen, wire, or charcoal.

Placement for Sampling

The activated charcoal packets adsorb dye from the water passing through them. Carefully placed packets will reduce the amount of dye needed for successful tracing.

Place each packet to maximize the amount of water passing through it. The packets can often be wedged between rocks on stream riffles. Do not wire a packet flat against a rock as this will decrease the velocity of water passing through it. In some of our dye tracing work, we have measured stream velocities of 1 meter per second passing through charcoal packets.

In swift currents, we commonly attach packets to rocks as follows: First, we tie a flexible wire around the center of the packet, penetrating the packet in at least one place so that the packet cannot be separated from the wire. This forms an hourglass-shaped packet, which we then wire directly to a rock (preferably a rock with a hole in it). When attached in this manner, water can readily pass through the packet, but the packet cannot easily be torn loose by the current.

One technique for anchoring packets which works well on sand, mud, or moderate sized gravel stream bottoms is to bend a 50 cm. piece of number 9 galvanized wire into a U-shape. Each leg of the U shaped wire is run through an end of the charcoal packet. The wire legs are then pushed into the stream bottom, the packet is stretched between the legs and is at a right angle to the current.

2. Do not attach packets in such a manner that they will flop against the stream bottom or rocks. This can damage the screen and cause a substantial loss of charcoal.
3. Particularly when using fluorescein, protect the packets from direct sunlight. A flat rock suspended above the packet works well, so long as it does not interfere with water flow through the packet.
4. Always place several packets at sampling points. Packets are occasionally lost, particularly in recreation areas. Conceal your packets from curious people who pull them out of the water and throw them on the shore.
5. Place collected packets in plastic bags until they are analyzed. Use a separate bag for each collection site. Keep the packets moist; it makes analysis easier. Include a label, filled out in pencil, with each packet. Do not use ink pens; some inks fluoresce and others blur.
6. Avoid contaminating your charcoal. When collecting packets, do not wear the same clothes as when you injected the dye. Do not let your boots or clothes come in contact with dye containers. A good procedure in changing charcoal packets in a stream is to always change them from the downstream side. If you have any dye on your boots or on your clothes, it washes downstream instead of into the packets. Contamination of charcoal packets is generally not a major worry, but prudence dictates reasonable precautions.
7. The sampling interval is an important part of the experimental design. The following should be considered when planning sampling intervals:
 - A. Adsorption of dye on charcoal is a cumulative process. If charcoal packets are changed frequently, very low concentrations of dye could be missed.
 - B. New charcoal is more efficient in adsorbing dye than old charcoal. Changing charcoal packets every week is probably better than changing them every two weeks. Based on our Missouri experience, we can have successful traces even when packets are changed at two-week intervals.
 - C. Fluorescein adsorbed on charcoal packets can be replaced by longer chain organic compounds. This could be a significant problem in some contaminated waters (for example, those contaminated with gasoline*). To our knowledge, we have never encountered significant problems of this type.

8. Occasionally, it is necessary to sample for dye in domestic water systems. Charcoal packets can be used effectively in the toilet reservoir tank since a substantial portion of daily household water use is through the toilet.
9. Never re-use the screen wire or charcoal from a packet.
10. Control packets free of fluorescein (negative control packets) placed at all sample stations for several days prior to the trace, and then, collected prior to the dye injection, help insure that fluorescein from other sources or traces is not present.
11. Control packets spiked with small amounts of fluorescein (positive control packets) can be placed downstream of actual sample packets.

These positive control packets should be collected in separate containers; they are helpful in giving the observer a "feel" for positive samples at the particular sampling station. We add several small pieces of wire with colored insulation to each positive control packet to help avoid any chance of confusion.

Orientation Week 1980 & Avalon Field Day

Orientation week was held on Wednesday, Thurs day, & Friday 20, 21, 22 Feb. this year with a stall set up & manned by SUSS members on each of these days. During this time the Castleguard film was shown & viewed with interest by numerous people. In all we had 29 new prospective members join during the time, 11 for 12 months & the remainder for 1st term only.

Orientation week was followed by a Field Day at Avalon where new members tried abseiling, jumaring, & laddering after which the sea caves were visited. To conclude this days activities a bar-b-que was held at Richard Mackay's place where the steaks sizzled, drinks flowed & troglodites revelled in typical SUSS fashion.

Thanks must go to all members who assisted with the stall & to Richard & his mother for making their house available & providing the delicious pavlovas.

Ian Mann

Bungonia Trip Report: 2-3 FEB. 1980

Present: Bryan Cleaver, Ian Mann, Helen Turtin, Martin Smith, Mark Hunter
— Phillip Cole, Phoebe Hornibrook.

We arrived at Bungonia on Saturday morning & after setting up camp decided to go for a walk to the lookdown while we waited for the rest of the party to turn up. Everyone went into B3 but we were stopped by bad air fairly close to the entrance. Bryan & myself entered B1 but were again turned back by bad air.

When we returned to camp the rest of the party had arrived so we had lunch & then headed off to show the freshers present the thrills & pleasures of caving. We entered Grill Cave & proceeded downwards only to be stopped by bad air at the right hand fork junction. On our return we decided to give the freshers some SRT & ladder practice so a small pitch was rigged at the entrance to Serpentine. About 11p.m. after dinner Bryan conned me into doing Acoustic Pot, so we bludged some gear & headed off returning 2hrs later.

Sunday saw the arrival of rain & bad weather, but not to be perturbed it was decided to do B4. 5 but to our dismay so did 20-30 others. This cave was good in that it gave the freshers a variety of conditions & barriers which they had to negotiate.

The week-end concluded with a visit to the Marulan pub & a leisurely drive back to Sydney.

Ian Mann

Jenolan Trip Report: 15-16 FEB 1980

Present: Paul Greenfield, Ian Mann, Richard Mackay, Mark Twigg, Ivan Desailly, Judy Strickland, Ross Franklin, Mike Lake, Steven Walker, Martin Smith, Helen Turtin, Richard McNeal, Anne Gray, Guy McKenna, Bruce Downes, Phoebe Hornibrook, Henry Shannon

On arrival at the guides office it was found that there had been a misunderstanding about permits & a party of 7 SSS members had already set up camp on Mammouth Flat. After some discussion it was decided that since our permit was not full the SSS members could join our group.

We split into 3 & headed for lower river via the rockpile & the 40 foot, at 15 min. intervals. A bucket chain was set up from Lower River to Oolite Cavern, the club's stirrup pump set in motion & cleaning commenced to the hearty singing of bawdy ballads ably led by Richard & Mark. Half-way through the proceedings the tell-tale smell of carbide became evident & Henry Shannon appeared at the head of the bucket line. After 4hrs of bucket swilling it was decided that the cave cleaning should draw to a close. Henry then led a party to slug lake (with numerous people having a swim on the return journey) while the remainder of the party headed for railway tunnel. Once here Paul led a small party to naked lady chamber via the unsurveyed connection while the rest of us returned to camp.

On Sunday Mike, Paul, Anne, Steven & Henry went into Spider to do further tract marking while the rest of us went up to Wiburds on a freshers guided tour of the environs. We went down to Yawning Gulges No. 1 & up North West Passage. On the way out Ivan & myself did it the hard way by doing the chimney to the entrance.

And so came to an end another successful Jenolan week-end.

Ian Mann



Box 5425 CC,
G.P.O. Melbourne,
Vic., 3001.

The beautiful city of Melbourne, situated at the head of Port Phillip Bay at the mouth of the impressive Yarra River, has been chosen as the site for the thirteenth A.S.F. conference.

Commencing on Sat. 27th December and continuing to Wed 31st, the conference will be conducted at the Pharmacy College, Parkville. The accommodation is at International House and Speleosports will be held at Princes Park, all venues being within close walking distance of each other. Living-in at the conference should be considered a vital part of the conference as it means meeting other cavers in an informal atmosphere, and freely participating in the various night-time social activities.

The photographic competition will be conducted along similar lines to preceeding conferences, and the photos or slides will be limited to those taken since WACCON. Start preparing your entries NOW for the best contest ever held. Black and white prints must be a minimum of 20 x 25 cm mounted, and colour prints a minimum 12.5 x 17.5 cm mounted. Slides should preferably (but not necessarily) be mounted in glass.

Printing costs are high, and to minimize the price of publications to buyers the committee is interested in soliciting advertisers for : (a) the guidebook , (b) the abstracts , and (c) the proceedings . If you, or anyone that you know of, are interested in placing an advertisement in any of these publications, please contact the committee for details of costs etc.

The committee is now issuing a preliminary CALL FOR PAPERS to be presented at the conference. If you have been engaged in some activity that you feel would make a worthwhile topic for presentation, please inform the committee promptly to assist us in the task of scheduling the lectures and seminars. Alternatively. if you would rather be an active participant in a seminar on various speleological activities such as SRT, photography, new equipment etc., let us know what contribution you could make, and what topics you would like to see covered.

Cave Convict stickers, at \$1 . each, are available through your club now, or in the near future. Registration forms will be available in a few months time through a variety of sources eg. A.S.F. mailing list, clubs and societies, and some retailers.

Please assist the Cave Convict committee by promptly returning information, as this will greatly help in planning for the conference. The time and cost of posting a letter is not excessive !

Further publicity releases will be via the A.S.F. newsletter and supplements to this magazine.

PHILIP MACKEY

Chairman Cave Convict Committee

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FUTURE EVENTS

April 19th - Saturday. Field Day, Wahroonga Rocks

Contact Ian Mann - 631 4321 (h) ; 692 2525 (w)

April 25th - 27th. Anzac Weekend. Jenolan - downstream

rockpile and Mausoleum Aven in Spider Cave. Contact -

Mike Lake, 524 5229

April 29th - Tuesday. Committee Meeting, 7.30 pm at

Geoff Innes'.

May 1st - Thursday. SUSS General Meeting, Common Room,

Holme Building (Old Union), 7.30 pm

May 3rd - Saturday. Kalang Canyon. Contact: Ian Mann

631 4321. Watch Monkey write off another rope !

May 16th-19th (Friday-Sunday). Cooleman Plains. Black

Range, Devil Hole, Frustration (so long as the weather
doesn't break). Contact: Ian Mann 631 ~~421~~ 4321

May 24th-25th. Jenolan, radiolocation work in Spider Cave.

Joint with HSS, so numbers are very limited. Contact:

Bruce Welch, 569 9928

May 28th - Wednesday Committee Meeting

May 31st - June 1st. Colong. Contact: Ross Franklin 771 3737



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