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**Cover Photo:**
Jeff Butt testing the anchor over the Dwarrowdelf (JF14) entrance, photo by Damian Bidgood.

***STC*** was formed from the *Tasmanian Caverneering Club*, the *Southern Caving Society* and the *Tasmanian Cave and Karst Research Group*. ***STC*** is the modern variant of the Oldest Caving Club in Australia.


# *The Speleo Spiel*

*Newsletter of the*
***Southern Tasmanian Caverneers Incorporated***
*PO Box 416, Sandy Bay, Tas. 7006*
*http://www.tased.edu.au/tasonline/scaving/*





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# Editorial

Lately our caving activities (as you will see from the articles in this issue) have been concentrating on tidying up some loose ends from decades ago. I believe that by systematically working through all those things on the 'to do lists' published by others in the past we can build upon their work. But not only should we build upon earlier work but we should ensure that what we do is kept (e.g. no more 'lost' survey data!) so that cavers in the future can then build upon our efforts. As some famous Nobel Prize winner has said, his achievements were only made possible by standing on the shoulders of the giants that went before him! In the local caving scene there have been plenty of giants, but it seems that they aren't all standing tall offering a shoulder to stand upon.

Along these lines, in this issue I have included a discussion article about club archives that it would be really good for everyone to think about, so that we can ensure that all our hard work is preserved for the benefits of speleology and the generations of cavers that will follow.

Enough on that one, back to more practical matters, I'm off on holidays for a while, and so Jamie Allison has kindly agreed to complete putting this Spiel together....it's always good to get new people involved in the normal running of the club. So, I'll leave some space for Jamie to introduce himself. Hopefully you'll be seeing more of Jamie's work in future Spiels too as I am trying to direct myself to more longer term stuff, rather than the day to day workings of cranking out Spiels and looking after the club gear.

Jeff Butt

Thank you Jeff.

Putting together an edition of the Spiel is quite a task. I certainly under estimated the amount of time and effort that goes into each issue. Congratulation Jeff, for making each edition of the Speleo-Spiel a quality production (and for getting it out on time!!).

I have not been caving for some time, but after reading the articles in this edition, perhaps it is time to do some real caving instead of web-trogging from my PC (even with a large monitor in a cold, dark room the experience is not quite the same).

Jamie Allison

*STC has caving lamps and helmets available for hire to Schools, Scouts and other groups with responsible caving leaders. Contact the Equipment Officer for details.*

# Club Matters

### New Members

A warm welcome to new full members: Matthew Holl and Chris Sharples. Welcome aboard STC!

# Bits and Pieces

### Carbide is still available (but not through STC).

If you wish to use Carbide, then you might find the following information useful for procuring it.

BOC Gases (Risdon Road, Lutana), sell it by the kg, as little or as much as you want. They now have it in 15-25 mm size (as opposed to the very chunky 25-50 mm size we used to get from them). The deal is that you have to take out a double sealed tin (e.g. like a paint tin), and drop it off. The next time they do an acetylene charge, they will fill up you tin and you can then collect it. It is not possible to get your tin filled on the spot (unless you are very lucky with timing?).For more information, phone Glenda on 6237 2252.

The damage is $6 per kg. Several people wanted the club to buy it in bulk, but there is no price advantage for buying it in bulk, and to cover a natural attrition (say 0.5% per year), the club would have to charge $6.50-7.00 for it. So, you may as well BYO (Buy Your Own) on an as needed basis.

Because of the need to make a couple of trips out to the BOC depot, carbide users might like to co-operate and combine orders and the filling thereof.

PS. According to the grapevine, there are moves afoot to get the use of carbide banned from all caves in National Parks or the World Heritage Area (i.e. this includes Ida Bay and most of the caves in the Junee-Florentine). It is to all carbide users advantage to use the stuff properly, and carry out your waste; the practise of 'out of sight, out of mind', e.g. disposing it in steams or burying it is simply unacceptable and will only add support to getting the use of Carbide banned.

# Safety Tip

On recent caving trips I have noticed that some cavers yell "Rope Free" as soon as they reach the bottom of the pitch and detach their descender.

***Delay your call of "ROPE FREE"***

Whilst the rope is actually Free, this is a dangerous practise, as a following caver now thinks it is safe to move to the pitch and use the rope. Whilst doing this he/she may dislodge something and the person below remains in a dangerous position if such happens.

It is far better to delay giving a call of Rope Free, until not only are you off the rope, but you are in a safe position away from the 'firing line'.

Safety is really just good common sense, please practise this. ♦♦♦

# FORWARD PROGRAM:

| | |
|---|---|
| **Meetings:** | Shipwright Arms Hotel, Battery Point |
| Wed Aug. 4th | General Meeting at 7:30 p.m. |
| Wed Aug. 18th | Social gathering from 8 p.m. |
| Wed Sep. 1st | General Meeting at 7:30 p.m. |
| Wed Sep. 15th | Social gathering from 8 p.m. |
| **Trips:** | Please contact the Organiser of any trip for more details |
| Dates to be fixed | °Owl Pot - Jol, 62299731.<br>°Blackmans Bay Blow Hole traverse - Dave, 62279056.<br>°Mole Creek trips (permit caves....), maybe Show-day w/e in Oct. |

**WANTED: YOUR ideas for TRIPS.....how about putting them down!**

# Survey Data and Maps - Some Ideas on Archiving them and a Discussion on Access, Storage and Other Thorny Issues.

**By Jeff Butt**

In the following I am 'thinking aloud' for the benefit of Speleology, and as such I'd like to discuss a few issues. Hopefully you will all have a think about them and at a future meeting we can progress along some sensible lines.

Much survey data has been collected and many surveys drawn up over the years. If you look through copies of the Speleo-Spiel, Southern Caver you will see that many have been published. However, it becomes apparent that many of the authors of these surveys are no longer actively caving, some are no longer associated with the club at all. You might then ask, what has become of the data or the original surveys?? These represent countless person days of hard work; which we are at risk of losing.

In the old days, some significant surveys (e.g. Herbert's Pot) conducted by SCS were archived either with the State Library or State Archives, but no one seems to have a list, or know exactly what is there, or how/if these may be accessed. In the gear store I have a pile (mostly copies) of old SCS surveys, which I must catalogue and sort through one of these days. I believe Trevor Wailes has the TCC survey archive; these too would benefit from being catalogued. I also have a significant number of cave surveys (many unpublished) that I have drawn up; these too should be catalogued. I am sure that many other members likewise have their own archives, again these ideally should be catalogued. If anyone has had the pleasure of using the STC library of late, you will benefit from the extensive cataloguing that Greg Middleton has done; all the publications are ordered, accessible and these greatly assists in procuring that reference you seek. Greg has done an excellent job; it would be good to have a similar situation prevailing for survey data and maps.

Many of the existing paper/film surveys have not been archived or backed up in any way; some have been published in A4/Quarto/Foolscap format of the club magazines, but this is hardly of archival standard. All of this information is at risk of loss, e.g. attacks of vermin, leaky roofs, house fires etc. It should be a high priority of the club to ensure that it is all backed up and archived in a form that is less susceptible to age and decay (e.g. microfilm, digitally on CD etc.)

The actual survey data, often on loose survey sheets is perhaps even more vulnerable; besides being the sole copy, some of it also suffers from the problems of difficulty in deciphering mud covered and/or tatty survey sheets (or perhaps books) or being tossed out with other 'piles of no-longer useful' paperwork.

When the Exit re-survey was in progress (a project which by the way has languished!) it seemed that no one had much in the way of the early data, this exemplifies the problems that exist.

It is a waste of time and effort, not to mention hard on our caves if data has to be collected over and over again every decade or so. Now with only one club in the south of the state; rivalry problems have gone and our sometime secretive data sets and surveys should be amalgamated for the benefits of speleology.

These days there is a plethora of computer programs for dealing with survey data; perhaps the biggest problem now is deciding which one you like to use best. Programmers these days are getting a bit smarter, many are using a standard data format, which is really sensible, as it means that people can import data sets from others without the need to re-enter it. This make fantastic sense, so much so that I'd like to see programs that don't use some sort of versatile data format 'boycotted' until the authors make such options available. It is really poor form if data-files are device (e.g. Mac or PC), or software dependant.

I can say that in the past TCC had their data in a much better form than SCS did, mainly through the efforts of Stuart Nicholas and his use of the SMAPS (Survey Mapping and Plotting System) software. In all the years that I collected survey data, most of it was held on a mainframe where I worked, and was reduced with self-written software...this was a case of necessity at the time as I didn't have access to a PC which SMAPS ran on, but now I look back and realise that it wasn't a very long-term way to go. I believe that several other members have put SMAPS to good use, e.g. Rolan Eberhard with his work with Forestry Tasmania and Arthur Clarke with his Ida Bay work.

When John Hawkins-Salt came on the scene he began to modernise things, putting as much data as he could find into a form for the "On Station" survey software. This data was annexed into the very excellent STC Archive that John spent countless hours of time working on. *[I must say that I use this archive regularly, it's a truly convenient medium for accessing information in a very quick manner. Since John left the state, updating of this archive has at best been sporadic...this is something else that the club needs to turn it's mind to!]* This software (runs on a PC) is quite easy to use and quite powerful. However, it's chief selling point to my way of thinking is that the data is store in the versatile "CDI" (Cave Data Interchange) format which several survey packages can use. Thus, if people wish they could easily import the data into other software programs.

OK, you may say, lets all work together and get our own respective personal data sets and archives into order; the logical steps would be to:

1. Produce a list of what surveys, survey notes and data sets we each have.
2. In the list the format/medium should also be recorded (e.g. dyeline, drafting film, survey notebook, loose survey sheets, SMAPS data file, Excel spreadsheet, On Station data file etc.

We would then as a club need to determine the best methods for the archiving of all the various forms of data, e.g. copying original surveys and storing in a separate location, digitising/scanning and holding on CD, typing in data in CDI format etc.

I agree, there is quite a bit of work here. But aside from the mechanics, there are some other issues (some are thorny) that need to be thought about in depth before we get too far down the track; these issues relate to:

1. Where do we store the archived material?
2. Who has access to it?

I have had a few discussions with various people, and it becomes apparent that we will need to have some sort of "Archive and Data Access Agreement". I think that sorting out this issue will be the most problematic thing.

Why you say?, well there are many good reasons, here are some examples of potential issues:

- Caves on private land where access is denied; availability of a map may encourage illegal access,
- People actively exploring a cave may not want data to be generally released lest someone else go and 'scoop' their finds [one way around this is to give people a period of sole use, but then at the expiry of this period the data is handed over],
- Some caves may be extremely sensitive (e.g. rare species, archaeological sites etc.) that the availability of maps/data will encourage access/degradation,
- People may join the club just to access cave location data and then leave the club and/or divulge information to 'undesirables', e.g. vandals, specimen collectors etc.
- Some people may spend put large amounts of time/effort/money into collecting data and don't wish to make it freely available (some may have a 'price', others may just want the 'power of knowledge'),
- If some outside body wants to access data, then how do you decide? Do you let mining companies, Forestry agencies etc. know where caves are so they can 'stuff them up', or 'stuff up a surrounding area' etc.
- If it is deemed that some outside body can have access to some data, then should there be a fee payable? If any fee is payable, who is entitled to it, i.e. STC, the people who collected the data etc. What is data worth?, do you base it on a 'per leg' or 'per person day' basis.
- And so on….

The more you think about it the gnarlyier it gets. But we should think about these sorts of issues. We probably don't need to reinvent the wheel, as others have already confronted these sorts of issues. I do recall seeing a "Data use agreement" for the Karst Index. This document (does anyone have a copy?) might provide a good base document to work from.

Anyway, that's enough for now. I do hope you can all spend some time thinking on these issues. In the time being, I for one will be getting my own data in order, converting data to CDI format, copying stuff that I only have single copies of and making a list of just what I do have (which is quite a bit after caving and regularly surveying for a good decade). In the meantime, some of you might like to follow the same example.

♦♦♦

*If you've got something to flog*
*(**Caving gear preferred!!**),*
*then don't forget that the*
*Spiel might be one way*
*to sell it.*
*Try the List Server too!*
*It cost's members nothing to*
*have a go,*
*so why not!*

# Accessing the Past: The Archived Survey Maps of Southern Tasmanian Caverneers

**By Arthur Clarke**

*Following from Jeff Butt's article relating to survey data and maps: maintaining an inventory, safe storage and archiving before it is lost to posterity!* Some years ago a person or persons unknown in the former Southern Caving Society (SCS) deposited an unknown quantity of cave surveys in the State Library (or State Archives); this was supposedly only accessible by certain nominated persons. But, all these arrangements were only hearsay: by word of mouth; there appeared to be no minuted record or document amongst SCS papers to verify the arrangements and what data had been archived.

The State Library of Tasmania had nothing! Searches at the Archives Office of Tasmania was more fruitful, but like any other archives research, you need to know the correct search procedure to track down the particular records you want. A search through the drawers of the "Non-State" card index records (along from the Miss "Wayn" drawers) revealed a card for "Southern Tasmanian Caverneers" - number "NS769"…. Success at last, but wait for it, there's a catch! Feeling proud as punch that I had achieved a result at last - the smirk on my face was soon removed when the Archivist returned with a small file of papers dated June 19th 1980. The archivist explained that there were two plastic tubes of maps back in the vaults – but there were access restrictions: unless my name was Bob Cockerill, Ron Mann or Leigh Gleeson.

The covering letter signed by SCS President: Aleks Terauds, states that SCS "…wishes to place original survey maps of some Tasmanian caves into the State Library Archives for safe keeping." There are two map tubes: NS789/1 and NS769/2. Tube Number 1 has original surveys of: PB-1, PB-3, JF-225, Westmoreland, Wet Cave – Georgies, Kellys Pot and Sesame 2. In Tube Number 2, one cave is represented by survey map/s: MC-202. The covering letter goes on to state: "…With respect to access, the Society does not wish to have the surveys available to the general public or researchers without reference to us. The persons nominated by the Society to have access or to authorise access to or removal of surveys are listed below and one signature is considered necessary: Mr. R. J. Cockerill, Mr. R. A. Mann and Mr. L. P. Gleeson. Alterations to this list will be advised as necessary. It is anticipated that access or removal will be infrequent and mostly for the purpose of completing or updating the surveys. We would like to thank you for the opportunity to lodge these surveys into archives. Yours Faithfully, Aleks Terauds (President).

The tube number one maps: "PB-1" is Damper Cave and "PB-3" is Quetzacoatl Conduit – both caves at Precipitous Bluff; "JF-225" is Three Falls Cave in the Junee-Florentine; "Westmoreland" is an un-numbered cave at Mole Creek – shown as "MC-X64" in the 1985 Karst Index; "Wet Cave – Georgies" and "Kellys Pot" are also at Mole Creek; "Sesame 2" is JF-211 in the Junee-Florentine. In tube number two the "MC-202" is the well-known vertical cave at Mole Creek: Herbert's Pot, where access has been denied for more than a decade.

♦♦♦

# Re-discovering Hastings: Fossil Creek Swallet and Other Delights

**Party: Robyn Claire, Arthur Clarke, Keith Vanderstaay and Mick Williams** **By Arthur Clarke**

News travels fast sometimes! At the last STC meeting, it was decided that STC would write to the new Hastings Caves manager: Keith Vanderstaay to let him know our existence and offer our assistance, if required. Before he had even received our letter, I received a phone call from Keith asking if I/we would be available to go bush with him to show him the whereabouts of *Fossil Creek Valley* and the track to *Mesa Creek* and the *North Lune* karst.

On Monday July 25th, Keith Vanderstaay met us at Francistown and we journeyed south in Mick William's 4WD to Hastings. At the Caves office, Keith showed us some of the planned proposals for future development including the idea of establishing several surface interpretation karst walks in the vicinity of the tourist cave (*Newdegate Cave*) and the other former tourist caves: *Beattie Cave* and *King George V Cave*. There was also a proposal to establish some longer distance walks, such as along the tracks to *Mesa Creek* and the *Hogsback* as well as shorter interpretative walks to show some of area's cultural history: from former timber logging days and the earlier developmental works associated with the tourist caves. Our main aims for the day were to visit *Fossil Creek Valley* and locate the alternate access track to *Newdegate Cave*, then inspect the *Mesa Creek* track - in both cases to search for natural attributes of possible interpretative value or potential tourist visitor interest.

Our first distraction of the day was a bush-bash to search for an old-timers' tree near the Caves Road in the vicinity of the old track to *Beattie Cave*. This particular track had been excavated as an 8-10 feet wide pathway in the early 1930's by the Esperance Council who ran tourist trips to *Beattie Cave*, as well as the so-called "*King George Cave*" and "*The Newdegate Cave*" **(Clarke, 1999)**. Prior to the development of *Newdegate Cave* as government run tourist operation from January 1939, all three caves had been used as tourist caves by the Esperance Council from 1933 to 1938 - with all caves in an undeveloped state, apart from and the installation of wooden entrance stairs or climbing poles and manfern trunks as stair treads inside the caves. The particular old-timers' tree we were seeking out had been shown to Robyn Claire and myself earlier this year by another Hastings Caves guide (and STC member): Roger Griffiths. After some ten minutes searching we found it: an old timber giant, now standing as a "stag" in the forest - it had been prepared for felling, with a face or front axed out, some 4-5m above ground level, but for some reason, the back-cut with cross-saw had never been started. Perhaps the old timers had gone for a lunch break and didn't come back, or maybe there was a bushfire - the tree trunk shows evidence of being burnt.

Our second distraction of the day was with the clubs' GPS unit. I was so confident about remembering how to use it (after a couple of days of use with it in bush with Jeff Butt), that I did not bring the instruction manual with me! By the time I figured it out, and re-established an old reference "waypoint" (the Caves Car Park) as a starting point, the batteries were nearly flat! With GPS in hand we headed towards *Newdegate Cave*.

At the first landing on the entrance stairs to *Newdegate Cave*, we established our next waypoint: "HX7" - the particular reference number used for this cave, still without a number tag, despite being known by cavers since October 1946, when TCC members first started explorations there! From this staircase landing, we headed west into the bush skirting along the flank of *Caves Hill* and soon picked up the alternate track to *Newdegate Cave*; it was heading in our desired direction towards *Fossil Creek Valley*. The lower end of *Fossil Creek Valley* is a typical karst dry valley which "empties" into the *Hot Springs* creek streamway. As the track approaches *Fossil Creek Valley*, there is a junction - the alternate access track to the cave, with decrepit old red canvas markers still nailed to trees, heads left (south) towards *Hot Springs Creek* and the car park; the right hand branch of the track heads up *Fossil Creek Valley*. Although it may have originally been a cavers' old walking track, this RHS track had been subsequently developed by the former National Parks and Wildlife Service (NPWS) for tourism. It was a well-formed track, through sawn logs or logs with cut steps, and has the remains of at least two small foot-bridges across the small stream that flows in the upper part of *Fossil Creek Valley*. The lower end of this little stream disappears into streambed sand and gravels about 60-80m up-valley from the track junction. While I was attempting another GPS reading at one of the nearby step-through logs along the track, Mick did some bush bashing and soon found a significant cave with a swallet entrance.

The cave is probably *Fossil Creek Swallet*; it did not have a number tag and from its appearance and location it matches a description of "HX-5" - *Fossil Creek Swallet* - a known but un-numbered cave previously recorded by SCS members in the 1970's. It has quite an impressive entrance, with a jumble of large rocks and logs beside a jagged-edged cliff face, fortunately now with only a trickle of stream water tumbling in. The rock is a mixture of hard and crumbly water-washed white dolomite or dark brown to black manganese coated, slippery-surfaced dolomite with deceptive footholds. The swallet walls and side fissures were alive with numerous glow-worms, hundreds of "*Micropathus*" -type cave crickets and numerous large *Hickmania* cave spiders. I followed Mick in, with Keith in the rear, then lead the way on following the stream channel down a steep descent (a 70º slope) under and over massive blocks of dolomite. The main entrance rift bottoms out about 20-25m down where the stream disappears through a floor choke of small angular fragments of rock, then under the side wall; there is some potential for a dig here and there is a noticeable draught of cool air. (given its location and depth, it is highly probable that this stream from *Fossil Creek Swallet* feeds directly into *Newdegate Cave*.) From the bottom, there appeared to be another high level route heading off into the hill (the other hill, on the opposite side of the valley to *Caves Hill*); I started climbing up and urged Mick to follow. This climb lead to a highly decorated relic karst cave passage: lots of stalactites, 'mites, shawls, flowstone and a floor of rimstone pools. It was a fairly narrow passage, basically just body-width and eventually lead up to a flowstone walled aven - this upper level passage could probably be pushed further by a smaller or thinner person!!

Out on the surface again: the GPS had stopped working due to poor satellite reception and low battery power. Keith and Robyn had continued following the old track up *Fossil Creek Valley*, so Mick and I followed, passing another old footbridge. I branched off to the left hand side hill, crossing another tributary creek, whose waters also disappeared underground, then located and followed a blue-tape track - possibly one that had been put in by the Mines Dept. geologist: Clive Calver. This track headed west, uphill steeply and into the *Hot Springs Creek* valley, where the creek was flowing/ falling through angular and sheared blocks of mudstone - probably a fault zone.

Mick crossed to the southern side of *Hot Springs Creek* and reported finding a cliff of limestone; Keith and I stayed in the

creek or on the north side hill. Robyn hung back to admire the plant life – a myriad of ferns and fungi, plus the huge 6-8m high / 0.75m wide *Dicksonia* manferns with epiphytes growing up their trunks. At 2.30pm, we gave it a miss and headed back to the track junction on the *Newdegate Cave* side of *Fossil Creek Valley*.

These tracks with the red canvas flagging markers, cut-out steps and numerous footbridges had been placed in the late 1970's/ early 1980's by NPWS when Andrew Skinner was the Head Ranger at Hastings Caves: designed as an alternate route to the tourist cave and to provide additional visitor experience of the caves environment. From the junction near *Fossil Creek Valley*, the track heads south to *Hot Springs Creek*, where there is the remains of an elaborate bridge: with wooden slats built on support timbers over a log across the creek, along with a steel cable line handrail. The track then winds its way through a maze of old timber loggers' stumps following the downstream course of *Hot Springs Creek*, crosses another footbridge over a milky water stream channel that may have formed as an incised enlargement of an old timers' logging shoe run, where logs had been dragged through the bush. The track comes out on the present tourist cave pathway near the foundation site of the original first lighting power plant: the *Kelly and Lewis* engine installed in late 1938. [ This diesel powered engine and generator used to be maintained by the father of one of our STC Life Members: Stuart Nicholas. Headbergs (later Nettlefolds) were the Hobart agents for *Kelly and Lewis* engines and Stuart recalls how his father had to do call-outs in the late 1930's/ early 1940's riding south to Hastings Caves on his motor bike to attend to repairs and maintenance **(Clarke, 1999)**. ]

After a brief late-lunch stop in the Caves car park, Keith and I headed into the bush again to follow the *Mesa Creek* track out towards the *North Lune* karst. The track initially follows the route of an old logging tramway - the western end of the main Hastings Mill tramway - heading west up the *Hot Springs Creek* valley, then does a sharp dog-leg turn south towards *Mesa Creek*, crossing over numerous little creeklets and streamways en route. Although parts of the track have been invaded by the pioneer plant: *Gahnia* cutting grass, the route is still occasionally frequented by cavers, but more regularly used by lyrebirds, as it passes through Celery-Top Pine and Myrtle forests en route to the limestone karst. There are sections of horizontal scrub and a small section of *Bauera* vine and *Gleichenia* fern intertwined with ti-tree across a swamp, with small ridges that feature miniature anthills. Apart from the cultural heritage of former logging days, there is some interesting fluvial geomorphology along the *Mesa Creek* track with evidence of dry valleys and stream capture, plus a suggestion that all these small stream channels are the remnant glacial outwash plain stream feeders which originally came from the front-wall of a former terminal moraine. So, it all has potential interpretative value as an extended walk for visitors as well as cavers!

**Clarke, A. (1999)** *The early history of Newdegate Cave and its development for tourism.* Paper presented to 13th ACKMA Conference, Mt. Gambier, April 1999.

♦♦♦

# Getting the Most Out of the Club GPS

**By Jeff Butt**

STC's Garmin 12XL GPS (Global Positioning System) is getting out and about quite a bit, and gradually a good amount of cave location data is being accumulated. The general aim is to get locations for all the caves; then caves will never be 'lost'. If a new hole is located, then if the entrance is marked with flagging tape and a GPS location is obtained, then the hole should be able to be relocated reasonably easily. [If the hole is 'a cave', then it should be tagged as well, a number tag on rock will still be there in 10-20 years, flagging tape will not! I don't think anyone from STC has done any number tagging for yonks.]

The following are some tips about how to get the most out of the club GPS unit.

Play with the unit before you leave home (ask for a quick run through when borrowing the unit), and take and read the instruction booklet.

Carry spare batteries. Rechargeable Nickel Cadmium batteries last about 6-8 hours, Nickel Metal-Hydride batteries last about 12-15 hours use. [I think the club should buy a set of these for the GPS, that will save both the environment and users the expense of disposable batteries.] Obviously you'll get more if the unit is turned off and on. A new set of Alkaline batteries will keep you going about 16-20 hours, carbon-zinc batteries about 4-8 hours. Note that the rechargeable batteries go from quite OK to dead flat in seconds, so often the unit will beep "Battery Power is low" only seconds before the unit shuts down.

The unit is set up to work with the 1966 Australian Geodetic Datum, this is the same datum used on our Topographic maps. Thus the grid references given by the unit can be directly related to the map. (Always carry a map and compass when you are navigating by GPS, in case of battery failure, inability to get a GPS fix etc.).

The GPS positions are displayed to the nearest metre; normally when looking at topographic maps one just uses 6 figure grid references, i.e. to the nearest 100 m. So, a Grid Reference of: (Maydena 1:25000 sheet 4626) for Junee Cave, would be 668 681, or if you wish to give an 8 figure grid reference it would be 6678 6810. A GPS fix for this same location would be something like 55 G 0466789 5268107 (but of course the last two digits for the easting and northing don't mean much due to SA, see below). So, make sure you get the correct number of figures when inputting a 'target' location, e.g. if you just have a 6 figure grid reference of say 668 681, ensure you input 55 G 04668<u>00</u> 52681<u>00</u> (the figures from the grid. reference are underlined).

The unit works quite well in the Tasmanian forests, though there will be times when it may be difficult to get a fix due to topographic features hiding satellites that are low on the horizon. We have found that turning the unit off and on sometimes makes it a lot harder for the unit to find itself. If you turn it on when out on the road (e.g. at the car park), it will get a good fix, then it should generally keep tracking the satellites as you go bush. But if you try and start in the bush, where the signals are weaker, then it makes it more difficult for the GPS to get it's first position. This situation is made even worse if the canopy is wet, or if it is raining. (The unit is somewhat weatherproof, but you should try and protect it from the elements, after all it cost around $750, and if you destroy it, guess who'll be paying the bill!) The GPS itself is a bit like a Tamagushi toy, if you ignore it, it will start beeping and carrying on demanding attention. Sometimes just altering the orientation of the internal antenna will solve the problem.

We have an external antenna, which gives superior performance, however the antenna cable causes problems in the scrub and in addition the connector into the bottom of the unit is quite fragile (it has been broken and replaced once already) and awkwardly placed.

Be aware that the GPS data is subject to Selective Availability (SA), which is noise the US Department of Defence puts on the signal. A spot reading is only accurate to about 100 m (i.e. a 6-figure grid reference), but if you average the reading, you will get a more accurate position. If you average for 3 hours then you will be accurate to about 10 m, but averaging for this long is not really practical. But, you should ideally average for a few minutes, in which case your position will be accurate to around 50 m. If you try to say leave the unit averaging whilst you are caving, you will probably come unstuck, as if the unit happens to lose itself for a moment (which it is prone to do with a satellite constellation change), all the good data will be discarded. [If you wish to use this method, which will give you some good data, it is best to set the track log to 'Time Interval', and then average the collected data at home on the computer later on. If you are planing to do this sort of thing, then that's fine, but do take a notebook and record the time period that you were at the position so that the correct data is averaged.]

Your recorded waypoint will be more accurate if you ensure that:

- You have 3 D navigation data (this requires 4 satellites),
- An Estimated Position Error (EPE) as low as possible, numbers below 40 m are good,
- When you start averaging the Figure of Merit (FOM) number displayed on the unit will initially drop quickly and then only slowly reduce. It is good to have a FOM of under 20, or even 15 if possible.
- If possible, later in the day take another waypoint at the same location, and give it a unique name, see below.

As soon as possible after recording your waypoint (it will be given a number, e.g. 45, the next waypoint 46 etc.), it is good to label it (you can use 6 characters in the name). If you leave labelling the waypoints to the end of the day you will more than likely get horribly confused and give the wrong names to waypoints. It is a good idea to carry a notepad and write down what you do and when. This may help you sort out the correct names if you wish to save naming (which is a little fiddly) till later on.

The suggested naming procedure is as follows. For a tagged cave, the first waypoint for the cave could be the cave number. e.g. IB211. A subsequent waypoint taken at the same cave is called IB211A, IB211B and so on. The unit is smart enough to complain if you try to use a duplicate name. Eventually a series of estimated positions for the cave will be obtained, and subsequent averaging will give a better estimate. For example, in the unit there are three positions for IB211, namely:

| | | | | | | |
|---|---|---|---|---|---|---|
| W | IB211 | 20-FEB-99 01:02 | 55 | G | 0488778 | 5186974 |
| W | IB211A | 20-FEB-99 08:00 | 55 | G | 0488824 | 5187000 |
| W | IB211B | 25-APR-99 02:09 | 55 | G | 0488824 | 5186938 |
| | | Average | 55 | G | 0488809 | 5186971 |

The average position will be a better estimate than any individual fix is likely to be.

To date, none of the positions in the unit have been averaged, but once the waypoint memory starts to get tight for space this will be done.

If you are putting other names down, e.g. where you left your vehicle "CAR", then try and be a little smarter, like WH-CAR for Wolf Hole car park; the track turnoff to Cauldron Pot "TO", use "CP-TO" etc.

The data (both Waypoint and Track Data) is downloaded to Jeff's old Mac SE. This guards against accidental loss of data. Copies of the data collected by any person can be emailed to that person upon request.

Eventually we will have too many positions for the memory, in which case we will have several data sets on the computer, say one for Ida Bay, another for the Junee Florentine etc. The appropriate data set can be downloaded to the GPS from the computer in preparation for the intended locality to be visited.

♦♦♦

# SRT'ing & Surveying Midnight Hole: 25/6/99

**Party: Matthew Holl, John Palmer and Jeff Buff** **By Jeff Butt**

John was keen for a training trip for Matthew. Matthew was very keen, so much so that he got picked up from work after a night shift and we were off south. As a passenger this time (maybe it's because of recent car gymnastics that I didn't get asked to drive) I had time to concentrate on my knitting skills (the things you let friends talk you into when other friends are producing sproglets...this damn baby blanket is a slow process...and knitting is definitely best not done on windy roads!) till a coffee stop at Dover was called for to revitalise the troops.

Anyway, we cruised up to Midnight Hole, Jeff gave John a quick run through of where all the bolts were, and John and Jeff gave Matt a quick lesson on knots. John then headed in rigging. Matt followed, and Jeff surveyed his way down. It's a sure thing that Midnight Hole has been surveyed before, but again where is the data? Anyway, we thought it an opportune time to grab a new set of data. We completed the survey from the IB11 tag down to the constriction in the Matchbox Squeeze (specifically, the last station is the piece of the left hand wall (viewed from IB11 side) that projects into the passage the most, at floor level). [There's a dirth of data for Mystery Creek too. it would be good to build on this data the next anyone is having a slack trip into Mystery Creek cave. Several newer people in the club have expressed interest in learning how to survey, maybe some work in Mystery Creek would be an appropriate training scheme.]

It was quite interesting surveying down, as one has a much better look at the cave when armed with a survey notebook. I spied several interesting leads. Also some of you might find it interesting to note that the pitch lengths (from Bolt to floor) are: 20 m, 10 m, 36 m, 7 m, 33 m and 52 m with the depth 171 m. The last pitch being 52 m (from the Petzl bolt on the left hand wall that Arthur Clarke installed) probably explains why so many people have trouble with the final "49 m pitch" and a couple of 50 m ropes.... Now we know why, the pitch is actually 52 m, approaching 53 m to the old eyebolt. I guess the original survey was probably done using rope lengths.

Matt zoomed out of the cave, and John being driven for the need for a pint of Guinness did likewise, accidentally shedding some of his load en-route for back-marker Jeff to collect. All in all it was a good little trip. Matthew, a prospective member now has more caves under his belt in the last 3 months than some of our other members have in the last 3 years! and is a good person to have as a member ♦♦♦

# Khazad-Dum: Setting the Depth Records Straight, Twenty-Seven Years On.

**A modified version of an article submitted to Australian Caver.** **By Jeff Butt**

Apparently significant errors do happen; sometimes they get written into the record books and stay for a very long time. Whilst doing a bit of surveying work on the Khazad-Dum/Dwarrowdelf system during June this year, it became apparent that Khazad-Dum (KD) did not have the historically (since 1972) quoted depth of 1054 feet (321m) (e.g. Matthews, 1985). In fact the depth (JF4 tag to Sump 1) was significantly less, at around 876 feet (267m) well below the magic 1000' mark of the time.

No this is not an aberration, I have checked and rechecked my data (details below). In fact, when I look at some of the original 1973 Grade 5 survey data (Shaw et. al, 1973), it actually gives this very same result! I find the fact that this result was 'overlooked' rather surprising!

## An Historical Perspective

An Australian depth record of 950 feet (290m) was claimed for a trip down KD over 23-24/1/71 (Kiernan 1971); a Grade 2 survey was also published. In early March 1972, KD was bottomed (Kiernan 1972) and an Australian depth record of 1020 feet (311m) claimed. This depth was called 'estimated', and I believe was based upon an altimetric survey. [Altimetric surveys, if done with care can be quite accurate; certainly better than ~20% overestimate.] At the time, the second deepest (around 800 feet) cave was Tassy Pot (JF223).

Montgomery (1973) presents a Grade 5 survey of Dwarrowdelf (JF14), which shows a depth of 836 feet (255 m) to the base of the final KD waterfall. Peter Shaw, Phil Robinson, Kevin Kiernan and Lamonis Kavalieris conducted a Grade 5 survey of KD in 1973 (Shaw et. al. 1973). This data gave KD a depth from the JF4 tag to Sump 1 of 866 feet (264m), but I cannot find any mention of this fact anywhere in the literature.

Robinson et. al. (1973) presents a very fine survey of the KD system (KD and Dwarrowdelf) showing a depth of 1054 feet (321m) from the JF5 tag to Sump 1 drawn by Montgomery (JF14 side), Robinson and Kavalieris (JF4 side). But, in this rendition of the survey (claimed to be Grade 5), the drawing of the JF4 side has not made use of the Grade 5 survey data (Shaw et. al. 1973) which Robinson and Kavalieris were involved in collecting. [In this drawing the 'extra depth' is obtained by having the stream-ways drawn with a significantly greater slope than they actually possess; and the JF4 entrance is shown to be about 180 feet (55m) higher than the JF14 entrance. Anyone who has walked to both entrance will realise that to get to KD you 'contour', whilst to go to Dwarrowdelf you drop into a gully, then climb out the other side, gaining all the height you just lost; there is no way they are 55m vertically apart!]

Who knows the real story; perhaps it was difficult to relinquish the cracking of 1000 foot depth and/or admit making an over-zealous depth claim in the hey day of competition for the deepest cave in the country; or perhaps as is more likely, it was just an error that got overlooked in the busyness of cave exploration in the hey day of the 70's. [Rolan Eberhard informs me that he scratched his head for a while about this same issue some years back.]

Despite being only 900 feet (274m) deep (JF5 tag to Sump 1), KD did indeed deserve (but only narrowly) the top spot from Cauldron Pot (JF2), then quoted to have a depth of 864-7 feet (263-4m) (Ellis, 1975 & 1976) until Ice Tube topped that in 1981, and Annakanda topped that soon after.

## The Actual Situation

For a variety of reasons, we completed an overland survey between JF14 and JF4. The net result was that we had a survey loop, from the JF14 entrance across the surface to JF4 and back via an underground route (the underground surveys were joined at the base of the final pitch in KD).

The vertical closure obtained was 0.5%, i.e. a mis-close of 2.5 m over a vertical range of around 500m. The errors were distributed over the loop, and the following results obtained.

- JF4 tag to Sump 1 has a depth of 266.5m
- JF14 tag to Sump 1 has a depth of 265.4m (i.e. the JF14 tag is 1.1m lower than the JF4 tag). [*Montgomery (1973) obtained a figure of 255m (836 feet) for this survey, but did use rope lengths to measure the long pitch (under-estimated by about 4 m).*]

Martin and Worthington (1979) surveyed (no clinometer) from Sump 1 to Sump 2 and estimated a depth increase of 1.6 m, but stated that because of inaccuracies, the increased depth could not be put at more than 1 m. **[The Depths of Moria really need a good survey, this area is under ~100m from Cauldron Pot, a bit of work here could pay big rewards!]** Hill (1987) dived Sump 2 in poor conditions (the sump was flooding at the time, I was a porter for this exploit), and estimated he achieved a depth of 10m. [Perhaps the sump should be dived again under good conditions; any divers interested? I'd even be silly enough to offer to porter gear again!] Historically, the JF5 entrance is the highest entrance into the system, and this is stated as (but has not been verified) 25' (7.6m) above the JF4 entrance by Robinson et. al. (1973).

So all up, the current best estimate for the depth of the KD system (from the JF5 tag to surface of Sump 2) is 275m, or 285 m if you go to the 'bottom' of Sump 2. Thus in the current Deepest Caves List, KD should be moved from position 4 to 5, as shown below.

| | | |
|---|---|---|
| 1. | . Niggly | 375 m |
| 2. | . Annakanada | 373 m |
| 3. | . Ice Tube-Growling Swallet System | 360 m |
| 4. | . Cauldron Pot | 305 m |
| 5. | . Khazad-Dum System | 285 m |

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# Splash Pot (JF10): 10/7/99

**Party: Matthew Holl, Dave Rasch, Jol Desmarchelier and Jeff Butt.** **By Dave Rasch and Jeff Butt**

As part of our current work in the area, it soon became apparent that it was time to savour the "delights" e.g. as recorded by Eberhard (1987a, b) of this little hole. Shaw et. al. (1973) did a ~Grade 4 survey down to the bottom of the pitch series (a couple of question leads still remain), but no-one seems to have the data (some deja-vu here); Rolan Eberhard (1987a) drew a memory sketch of the 'Close to the Bone' extension, but it is always good to quantify these surveys; so we thought we'd survey the whole lot to do the job properly. Since none of us had been to the cave before, we did have the advantage of not knowing exactly what we were letting ourselves in for, though we had read some trip reports in old Spiels and had a pretty good idea...Dribblespit revisited was the concern!

NB. The number tag, reportedly at face height at the bottom of the entrance pitch is now about 0.6 m above the floor and partially hidden by branches from logs that have fallen in.

The crack team (Dave and Jol, i.e. the smallest of our party) set off first to rig the pitches and come to experience being "Close to the Bone".

"Close to the Bone" is the obvious streamway continuation below the pitches. No doubt it was known about in the early 70's when the cave was discovered, but wasn't pushed due to its ridiculous dimensions. For the most part, it consists of a rift about 4m high and a width that varies from about 1.5m at its widest down to about 30cm in places. It is only just passable-while there may be several heights in the rift in which you can "post" yourself horizontally, the trick is to find the one that continues on around the corner. A number of times we squeezed in for some metres before having to inch back out and look again at a different level. Dave did not find the trip particularly hard on the trog suit-the dimensions were narrow but the walls smooth, perhaps a tribute to excellent hammer work by Trevor and Rolan back in Feb 1987! Jol silently wished many times that he was at home Phd'ing, but never-the-less the regular forcing of his body into ridiculously tight spots did take his mind off his thesis.

Dave and Jol stopped at the top of the lower pitches, partly because we only had one of the two ropes necessary to descend, and partly because of the amount of water descending the pitches. While we were waiting for Jeff and Matt to join us, we climbed out over the pitch head and could see down what looked much further than the 12m mentioned in Rolan's survey. Dave suspects he was looking down both pitches together as there looked to be a bit of a ledge about 10m down. This ledge was taking the full force of the water and the pitches promised us a total drenching, with little prospect of rigging out of the water. We decided to leave it for another day.

Just a few metres back from the pitches, another stream passage enters through a small window on the right. Posting our heads into this window, we were surprised to see relatively roomy passage. Dave stood up in the passage and walked a few metres, noting it heading upward and corkscrewing back towards but above the pitches. This passage is shown in Rolan Eberhard's "memory sketch" survey (Eberhard, 1987a) but not mentioned. Dave didn't follow it far as he felt somewhat "remote" from the other cavers and was a bit worried about route-finding for the return trip. However, while pack hauling made the return trip somewhat strenuous, the small rock cairns we left on the way in to indicate where to climb up in the rift and where down were much appreciated!

Meanwhile Matt and Jeff (with the cruisy job) surveyed their way down, at a more leisurely pace. The cave proved to be more complex than the original survey suggested, with several side passages, and thus our progress down the hole was a bit slower than we envisaged. Matt managed to lose the left leg of his overalls in the first five minutes, and it got worse from there.

The pitch series was quite wet, 'Shower Pot' would be a more appropriate name than 'Splash Pot' given the prevailing conditions. The pitch series (with some quite nice marbleised limestone) is along a narrow rift; the steam(s) form a veil waterfall along the whole right hand side of the rift, and it is either a little bit wet or very wet, depending upon where you are in the rift. Dave rigged the pitches very well; some rigging notes are included below.

Just as Matt and Jeff were about to experience the 'choicest' pieces of this cave, Dave and Jol returned (we had been listening to them return for about the last 20 minutes.... this part of the cave is about 1 m/minute territory) and we decided it was turn around time. They had made it to the top of the next pitch that was very wet. Several of the squeezes were 'helmet off' ones and they had expended a considerable amount of energy getting to/from the pitch; this meant they were sweating away, whilst we were close to shivering. Dave was keen to ensure that Matt and Jeff experienced the real nature of this cave, and sent us off for a look whilst he and Jol started to head out. Matt, with now shredded overalls went a short distance and decided that enough was enough. Jeff went a little further, through the first squeeze.... and then returned as he felt that was enough of a taste to gain a pretty good idea of the remainder. Since it was time to go, the completion of the survey would have to wait for another (and preferably drier) day.

Our exit was very smooth and straightforward, emerging about 6 hours after going in.

The Grade 5 survey is not yet complete, it goes to the start of the 'Close to the Bone' extension and puts the depth here at 93 m (c.f. 95m by Shaw et. al. (1973)) We plan to return to complete the job in due course.

Rigging information (for the sizeable part of the cave)

- Entrance pitch, 11m rope, tied to the taped tree. Various logs over the edge protect the rope from the lip.
- Main Pitch (a 3 step series); we used a 67m rope and had about 12m spare. Two tapes (one on a thread-LHS, the second on a jug-RHS) give a good start, rebelay at -2m off a block takes you to the bottom of the first step. A long tape (8 m) on a pillar on the right (quite wet here) takes you down the second step. Traverse along, over the first 'blind?' narrow shaft to the third step. There is meant to be a bolt here on the LHS, but it wasn't easily found, so a trace on a small projection on the RHS gave a good hang. A deviation (projection, LHW) at -3 m moves one out of the worst of the water (the LHS where the bolt is would be slightly drier, but you can get pretty wet looking for a bolt... A good jug in the hand is worth heaps more than the best bolt you can't find).

References:

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# Cave Fauna Interpretation: Hastings Karst (*Newdegate Cave*)

**By Arthur Clarke**

## Introduction:

There are two main groups of fauna (species of the animal kingdom) that are typically found in caves: vertebrates and invertebrates. Firstly, the vertebrates - the animals with backbones - these fall into one of five sub-groups (known as classes): Class Amphibia (e.g., frogs), Class Reptilia (e.g., lizards and snakes), Class Aves (birds) and Class Mammalia (mammals), plus the fish (Class Pisces) which are sometimes found in stream caves. Secondly, the invertebrates - the smaller "creatures" without backbones - three main groups of invertebrates are commonly found in Tasmanian caves: the annelids (segmented worms), molluscs (snails and slugs) and the arthropods (which have jointed limbs and exo-skeletons), such as "spiders" (Class Arachnida) and insects (Class Insecta). Vertebrates and invertebrates are both represented in *Newdegate Cave*.

## Vertebrate Species:

Apart from the occasional live frogs or lizards that might be seen inside the cave entrance, most of the other evidence of vertebrates in *Newdegate Cave* is seen in the form of skeletal remains (bones, skull fragments and teeth) of many different (dead) mammal species. In most Tasmanian caves, these skeletal remains are normally well preserved due to the naturally stable state of cave environments with slightly moist conditions (from high humidity and constant low air temperature).

Some bone pieces may even become calcified or cemented into the cave floor as a result of being splashed by the calcium carbonate rich drip waters which form the speleothems (cave formations), such as the stalactites, stalagmites or flowstone. The skeletal remains in caves are commonly referred to as sub-fossil deposits, accumulating inside caves over a long period of time, perhaps dating back for several decades or centuries or perhaps even many thousands of years. Sites such as *Newdegate Cave* can be very valuable and important, because these bone deposits can reveal present and past occurrence records and distribution patterns for mammal species in the surrounding region.

In *Newdegate Cave*, there are bones of larger mammal species (such as wallabies); these are probably the remains of animals that perished after falling into the cave, before it became a tourist site. Many caves in Tasmania, such as *Newdegate Cave*, are effectively pitfall traps because of their steeply inclined or vertical entrances; as such these caves act as accidental "mammal traps", sometimes as a result of prey species falling in when being chased by predators. Some animals that accidentally fall into caves simply perish as a result of their fall injuries or due to starvation / dehydration: being unable to climb out of the cave. In *Newdegate Cave*, there are also the sub-fossil remains of a large number of smaller mammal species such as rodents, Antechinus and pygmy possums and their origin is likely to be due to a completely different cause.

There are a number of caves in Tasmania and other mainland areas, have been used by owls as roosting sites; this particularly applies to those caves that have large entrance openings. Owls are raptors: birds of prey that commonly feed on small mammal species, usually decapitating their prey victims, then swallowing their prey whole. While roosting on ledges or in small alcoves high up on a cave wall, (usually during the day after their nocturnal feeding forays), these owls regurgitate a pellet - composed of the indigestible food matter: bone pieces, fur and feather etc. From their position in *Newdegate Cave*, it appears likely that many of the accumulated small mammal bones are derived from the remains of former owl pellet deposits in the cave. A preliminary analysis of this material indicates the presence of several small mammal species that are not known from this region today, for example: the Broad-Toothed Rat and the New Holland Mouse.

The bone pieces and teeth in these sub-fossil deposits are the residual remnants of a decay process emanating from the decomposition of the animal carcasses or owl pellets. These animal remains represent part of normal input of organic material that occurs in most natural cave systems, along with the plant matter (leaf litter, bark, seeds, twigs and branches) which fall into, or wash into cave entrances. The regular input of such organic matter forms the basis of a ecosystem present in most natural cave systems; an ecosystem which begins with the breakdown of this incoming organic matter. These decay processes on both animal and plant matter are aided and abetted by micro-organisms including bacteria and fungi, plus the feeding or foraging actions of numerous scavenging invertebrates.

## Invertebrate Species:

As well as being gated, the entrance to *Newdegate Cave* is enclosed by an artificial shelter, so there is no longer a regular input of organic material in the form of plant matter or mammal species (or owls and their pellets). However, there is still some input of organic matter in the form of invertebrate species (and their decaying remains) including cave crickets from surface environments: we often refer to these surface dwelling creatures as "epigean" species. Some of these epigean species are associated with limited input of leaf litter and twigs that you will have noticed in the wall crevices near the entrance gate. Although there is relatively little natural input of plant matter into *Newdegate Cave* today, this absence has been inadvertently replicated by the presence of wood and timbers - remnants of the former wooden staircases, supports and handrail structures that were brought into the cave when it was first developed for tourism during the middle to late 1930's. So despite a loss of natural habitat in an artificial environment of concrete stairs and pathways, these abandoned staircase timbers and supports have helped maintain a cave ecosystem providing a food source and a habitat shelter for many invertebrate species.

The number and diversity of invertebrate species in *Newdegate Cave* is quite surprising, considering that it is a developed tourist cave. Our preliminary studies suggest around 40-50 different species, including the unseen micro-invertebrates (only visible with a magnifying glass or microscope) or the macro-invertebrates that we can easily see. One of the more easily observed species is the Tasmanian Cave Spider (*Hickmania troglodytes*), particularly seen in the vicinity of the entrance stairs and under the spiral staircase. These large and hairy, long-legged spiders have complex sheet webs and are characterised by their magnificent, 3-4cm long, white pear-shaped egg sacs. Jealously guarded by the large female spider, these sacs may contain over 100 eggs, over half of which will hatch into juvenile *Hickmania* spiders. Although able to spend its entire life cycle within caves, occupying a range of habitats from entrance zone to the dark zone, the Tasmanian Cave Spider is not considered to be a obligate cave dwelling species, but does show some of the signs of cave adapted species, e.g., being able to withstand extended periods of water loss.

The Tasmanian Cave Spider is widespread and abundant on the surface, found in old abandoned mine adits or in the darkened recesses underneath large logs in rainforest, as well as most other cave areas of the state.

Amongst the other invertebrates that are not considered as obligates in caves, two insect species commonly seen throughout *Newdegate Cave* are the raphidophorids, commonly known as cave crickets or wetas (*Micropathus tasmaniae*) and the Tasmanian Glow-worm (*Arachnocampa tasmaniensis*). The cave crickets are scavengers, which feed on dead invertebrates, as well as live mosses and other plant matter; they usually emerge from the cave around dusk and return before dawn, so they are often seen near cave entrances, but also occupy the deeper or darker parts of the cave. The glow-worms are the larvae of a fungus gnat; they are moisture lovers and normally inhabit damp or very moist sites in wall crevices or under overhangs, but in *Newdegate Cave* they can be found under the *Cathedral* and *Palm Grove* staircase. Each larvae has around 30-50 "fishing-line" threads coated with tiny sticky droplets to catch their prey: other flying insects (including the adult glow-worm gnats) which are attracted by this bio-luminescence (located in the larva's abdomen).

In cave systems, cave invertebrates are often "classified" by biospeleologists (cave biologists) in terms of their position or presence within "zones" in the cave, that are governed by the degree of light penetration: as entrance, twilight, transition or dark zone fauna. These light zones are less applicable in a tourist cave, such as *Newdegate Cave*, with its artificial lighting, so it is probably more relevant to look at the invertebrates in terms of whether they are epigean (surface dwelling) or hypogean (subterranean dwelling) species which live underground. Many of the cave dwelling (hypogean) species are termed as "obligates" because they cannot live outside of caves; in other words they are obliged to live in caves. All of these obligate species have adaptations to living in the darkened cave environment; those species that show marked signs of cave adaptation are known as "troglobites". Some of these troglomorphic (cave adaptive) features include: depigmentation due to loss of body pigment (and may even be white); loss of eyes or smaller and less functional eyes (often with little or no eye lens pigment); having other extra sensory abilities including longer legs or antennae, more dense setae (hairs) and/or spines to help find their way and possibly some enhanced olfactory ability to locate food or mates.

One of the most commonly seen troglobitic species in *Newdegate Cave* is the cave opilione - commonly known as harvestman - (*Hickmanoxyomma cavaticum*); these are tan-brown to orange in colour, and have a body length of about 8-10mm and a leg span often up to 3-5cm across. [The harvestman is one of the arachnid group of invertebrates which all have eight legs, including spiders, scorpions, pseudoscorpions, ticks and mites.] Whereas spiders characteristically have separate head and body parts with six to eight individual eye lenses on the front of their head, in the harvestman the head and body are as one part and their eyes are located on their back, at either side of a prominent spike or eye mound. These cave adapted harvestman have two additional features of note: they use their second pair of legs as feelers to help find there way - if you look carefully you will see they are about twice as long as their first, third and fourth pair of legs. Secondly, in front of their head they have two large pincer-like (pedipalp) structures with small thorn-like spines, to ensure their prey cannot escape; although normally a slow-moving animal, they can also use these pedipalps as a fifth pair of legs to increase their mobility speed. It is easy to understand why the harvestman is considered the top predator in many Tasmanian cave ecosystems, though some of the spiders may argue this!

During the course of the recent rehabilitation efforts in *Newdegate Cave*, another different species of cave-adapted harvestman was found in January-February this year (1999). Although not yet formally identified or seen by specialist taxonomists, it is believed to be possibly a new species of the genus: *Lomanella*, similar to (or possibly the same as) a new species from *King George V Cave* described in 1990 as *Lomanella thereseae*. These possibly "new" creamy-white to orange or tan coloured harvestmen are quite small - with a body length of only 1-2mm. These tiny *Lomanella*-type harvestmen are predator species too, commonly found in amongst the damp to moist abandoned staircase timbers, often co-existing (sharing the same habitat) - even the same piece of timber - as the comparatively much larger *Hickmanoxyomma cavaticum*.

Occasionally, a quite large, hairy pinkish-tan to grey-black coloured spider is found in *Newdegate Cave*; this fast moving spider is also a hunting predator; commonly referred to as an "amaurobiid" (a member of the spider family: Amaurobiidae), although not yet formally identified and described to genus and species level. Similar to other cave adapted spiders, this amaurobiid is very setose (or hairy) and has small eyes, with very little pigment in each of its eight eye lenses. In February (1999), another possibly cave adapted spider has been located amongst the old cave timbers. These creamy-ochre coloured spiders which are possibly pholcids (family: Pholcidae) are also very setose and only have six eyes arranged in two sets of three - all without pigment - but in addition, have two large spines emerging from its "forehead". Furthermore, there are some other tiny (1-2mm long), white to pinkish-tan coloured, setose and depigmented spiders - also with reduced eye structures, including a possible new species of the genus *Tupua* (of the family: Synotaxidae).

And while on the topic of spiders, there are two other members of the arachnid group that seen here in caves at Hastings. Firstly, the small (3-4mm) cave adapted pseudoscorpion (or "false" scorpions), which resemble tiny scorpions, without a tail, but still bearing the fearsome looking pincers (or pedipalps). One of these species which was described in 1970 from the nearby *King George V Cave*, has also been sighted in *Newdegate Cave*: but wait for it, its quite a mouthful: its name is *Pseudotyrannochthonius tasmanicus*. The second member of the arachnid group found here in *Newdegate Cave* are the mites, including some possibly cave adapted species: tiny 0.5mm, orange-red mites, possibly new to science, from a group of mites known as the Oribatida. Because they are so small, they're very hard to find; once again, they mainly live in the old staircase timbers.

A small but more commonly seen cave adapted species is the dark-brown, flightless, cave beetle (*Idacarabus cordicollis*), which is only about 8-10mm long. Amongst the other true cave adapted species, we have recently discovered some very small invertebrates: 1.0-1.5cm long millipedes; 1cm long symphylans (like a millipede, but with antennae); tiny 1-3mm long white isopods (commonly known as wood-lice or "slaters") with barely discernable eye structures; 1mm long blind springtails - a six-legged insect with a spiked "springing" structure protruding from its abdomen, including a recently discovered blind cave adapted species of the genus: *Trogolaphysa*.

All these previously mentioned invertebrates are terrestrial species, animals that live on the cave surface substrate: on soil, timbers and mulch, and definitely out of water. In addition to these terrestrial species, there are several aquatic species that live in the stream and the still pools of the stream passage that runs through the length of this cave, including well beyond the present tourist section. Many of these species appear to be cave adapted as well, but most of them are new undescribed species that have

only been recently discovered since early December 1998. One of these species is a whitish, almost translucent possibly cave adapted form of the anaspidean syncarid (*Anaspides tasmaniae*), commonly seen in mountain tarns - where it is known as the "mountain shrimp". Similarly, there are the "crangonyctoid" amphipods, which are creamy-white and nearly translucent: (these are an aquatic version of the landhoppers often seen in forest mulch or the sandhoppers seen in rotting seaweed at the beach). One other group aquatic organisms, which might include cave adapted species are the tiny 1-3mm long aquatic snails or gastropods (known as "hydrobiids" - family Hydrobiidae) which cling to the sides of larger or more firmly fixed cobbles and stones in the flowing stream. Because of their miniature size and limited mobility, turbulent water flows tend to act as a dispersal barrier, so these hydrobiids tend to be confined to very small locality areas, often with different species in neighbouring streams of the same hydrological system within caves (or surface environments).

In summary, amongst the hypogean species in *Newdegate Cave*, many of which are probably obligates (including troglobites), and represent species or sub-species that are endemic to this cave or this Hastings karst area, we have:

- Cave harvestman: *Hickmanoxyomma cavaticum*;
- Cave harvestman: *Lomanella sp.*;
- Cave adapted spider: possibly new species of family Pholcidae;
- Cave adapted spider: possibly *Tupua sp.*, a new species of family Synotaxidae;
- Cave adapted spider: possibly new species of family Amaurobiidae;
- Cave pseudoscorpion: *Pseudotyrannochthonius tasmanicus*;
- Possible cave adapted mite of the acarina group: Oribatida;
- Carabid cave beetle: *Idacarabus cordicollis*;
- Cave adapted springtail: new species of the genus *Trogolaphysa* (F. Paronellidae);
- Possible cave adapted isopod of family: Styloniscidae;
- Possible cave adapted anaspidean syncarid: *Anaspides tasmaniae*;
- Aquatic cave amphipod of the group: Crangonyctoidea;
- Aquatic gastropods: probably two new species of family Hydrobiidae.

Apart from the dozen or so aquatic and terrestrial hypogean obligates in *Newdegate Cave*, there are the more numerous epigean invertebrate species.

In terms of general cave ecology, we tend to think of these epigean species as being mainly either accidental or opportunistic species. In *Newdegate Cave*, the accidental species may result from falling in, being carried in by air or water flow, or perhaps being brought into the cave as parasites on other animals or inadvertently arriving in the wood used for the original staircase timbers and supports. The opportunistic species are probably just simply in the cave because they like being there, plus the fact that it is a cool, moist and sheltered site with an adequate food supply.

**Following is a summary of the epigean species in *Newdegate Cave*:**

- The 10-12cm long aquatic gordiacean (horse-hair) worm: *Gordius sp.*, which in juvenile form is parasitic on other cave arthropods, such as cave crickets and large spiders;
- Small unidentified aquatic (paludicolan) flatworms;
- Several terrestrial flatworms;
- Some small creamy-white 1cm long oligochaets (earthworms) as well as the longer more common garden type of worm;
- Three different species of land snails (gastropods), including *Caryodes dufresnii*;
- Two unidentified species of isopods,
- Several millipedes and symphylans;
- The numerous aquatic larvae of flying insects on the underside of stream cobbles;
- Tasmanian Glow-worms (Family: Mycetophilidae);
- The many other unidentified species of Diptera (flies);
- numerous sap-sucking or leaf-hopping hemipteran bugs;
- 3-4 species of lepidopterans (moths);
- The 5-6 winged and flightless coleoptera (beetles), including three identified species: *Brachypeplus sp.* (Family: Nitidulidae) and two scarab beetles: *Saprosites mendax* and *Saprus griffithi* Blackburn (both family: Scarabaeidae);
- 5-6 species of springtails, including *Lepidoseira sp.* (Family: Entomobryidae), *Ceratophysella sp.* (F. Hypogastruridae), *Folsomia candida* (F. Isotomidae) and *Paronellides sp.* (F. Paronellidae);
- A 1cm long grey-white cockroach;
- Several different unidentified spiders; and
- 4-5 species of acarina (mites), including three or four new undescribed species: *Heydeniella sp.* (Family Ologamasidae), *Erythrites sp.* (F. Erythraeidae) and a new species and possibly new genus of the oribatid Family: Ptyctimidae. ♦♦♦

# Notes on the Leads Down the Bottom of Khazad-Dum

**By Hugh Fitzgerald**

This note is to record exploration details from two trips (5/6/99: Jeff Butt, Jol Desmarchelier and myself; 12/6/99: Jeff Butt and Damian Bidgood) into the Khazad-Dum basal chamber (where Dwarrowdelf intersects KD) region.

As Rolan Eberhard wrote (see "Notes on Khazad-Dum (JF4, 5, 14)", Speleo-Spiel #274, May '92): "It is in the massive final chamber where scope is greatest for finding major continuations."

I looked at three possibilities, and refer to Eberhard's notes where appropriate: "There are a number of steeply ascending passages at the upper (i.e., northern) end of the basal chamber. These appear to be ancient phreatic conduits and were briefly explored on a TCC trip in 1986."

## 1st lead:

After a climb up to the right from the high point between Dwarrowdelf and K-D (right as determined while facing the gritty descent to the last K-D waterfall), following a rockpile and taking the left-hand edge, I climbed up to the wall of the great chamber where the rocks seemed to have fallen from the roof, exposing a curious collection of small phreatic tubes. This point is higher than the top of the last (dry) K-D pitch, as I could see across to where John Palmer was ascending this 41m pitch.

I partially explored the right-hand most of these phreatic tubes for a total distance of 50-60m. Here two tubes ascend steeply

side by side, and bring to mind the view up the double barrels of a very large shotgun. I climbed up the right-hand tube to find the left-hand one intersecting with mine after about 8m.

The ascent was steep and over loose rubble. As I progressed further, the walls became brilliant with tiny sparkling crystals. Small helictites and gypsum formations were noticed. The climbing became steeper as the passage opened into a narrow, vertical rift. A phreatic passage kept going straight up while an alternative route went horizontally along the rift. I first took the horizontal route, squeezing under a large rock in the roof, and followed a low crawling passage on my stomach.

There appeared to be an ephemeral draught blowing at me, though I would lose track of it. The crawly passage curled leftwards and slightly up, until it terminated in a small chamber with many crystals on the walls, and no leads. The elusive draught, if there at all, seemed to be coming from a crack in the right-hand wall of the curling crawl (as oriented while crawling to the dead end). This crack was infilled with sediment, and did not seem worth pursuing in the cramped conditions.

I returned to where the phreatic tube had been left ascending steeply, and climbed up gingerly. This opened into another small rift, with a too small and delicate horizontal passage leading off in one direction. I climbed up about 2m to see the main phreatic tube ascending still further, and of reasonable dimensions to accommodate my bulk in a stomach crawl. However, from here this passage had extensive helictites growing on the floor, so I abandoned further exploration. No significant draught was encountered. The formations are small in this area, but quite spectacular in their pristine condition.

## 2nd lead:

From the base of the Dwarrowdelf 70m pitch I looked at following the water from the pitch through the rocks at its base. Here I noticed a dark rift passage above the water level against the left-hand wall (i.e., the wall that the 70m pitch almost touches). I followed this along a short winding rift (following boot prints) to where it opened out into a space at the side of a rockfall. The obvious way on against the left wall soon pinched off, but against the right-hand wall (as encountered when emerging from the rift) I managed to shift some large rocks to open up a climb down of 2m. With further work this looks like it may reveal more space below, as several rocks I moved tumbled down for some depth. It should lead down to where the water from Dwarrowdelf flows on an intersection route with the K-D streamway, but who knows? There is potential in this rockfall for further pushing, but I for one don't really enjoy being in rockfalls where everything is so loose. Total length from main chamber in was 20-25m.

## 3rd lead:

With my back to the last Dwarrowdelf pitch, my left towards K-D, my right towards the rockfall leading to a 4m climb, I noticed a tiny streamway entering the chamber. (This is possibly the north-eastern wall of this chamber, sort of directly opposite where the 70m pitch comes down). The stream emerged from a decent sized passage, which I followed in for about 50m. After the crawly start, the passage opens into a pleasant vadose rift, bearing 310 degrees magnetic (in June 99). This main rift continues on dry, while the stream comes in from a right-hand fork soon after entering the rift. The water is followed up several crumbling rock climbs and over incised flowstone beds. I kept climbing, taking a left-hand dry oxbow passage at one point, to emerge at a small widening in the passage with a flowstone formation on the left wall guarding the gap. In this widening, the tiny stream emerged from a confluence, where upstream it consisted of two even smaller tributaries, barely more than trickles. It's surprising how big the vadose development is in here, but the streambed is clearly degradational these days, after some glory at carving this passage in days of yore. The left-hand trickle emerged from under a too low wall, while the right-hand (and larger) trickle emerged from the continuing vadose passage. Here the streambed was laid in an incised groove in delicate mud, and further progress would have damaged the stream course, so I desisted.

## Jeff's pitch lead:

Meanwhile, Jeff had explored a rift described by Rolan Eberhard: "Off to the right (if facing towards KD) in the section where the ceiling is lowest between the base of Dwarrowdelf and the main KD chamber, is a well-concealed crawl leading into the ceiling of an active stream canyon. Traversing along horizontally brings one to an aven where a small stream enter
In the downstream direction the passage descends steeply in extremely friable rock. I was stopped at the brink of a short drop here in 1986."

Jeff descended a 15m pitch here with large parts of the cave walls collapsing around him. The rock in the area is extremely friable. At the base of the pitch, the stream still heads down very steeply, but the passage is too small. However the nature of the rock suggests that enlargement would be easy, but you would have to be keen! Also, a rope would be required to escape from this place. [Jeff surveyed this area on 12/6/99 and added it to the new drawing of the region. The survey shows that this is heading straight towards the Depths of Moria, aimed upstream of Sump 1]. At the top of the pitch, another passage heads back parallel with the wall of the main Dwarrowdelf-KD connector, and it appears that the dry rift I entered bearing 310 degrees magnetic is a continuation of this same passage.

## Jeff's climb leads:

At the right-most high point of the KD Basal chamber there is a large slabby (about 60° slope) section of rock. This rock has many cracks in it, and some parts of it have slid off; there is a substantial drop and below, so one would need some protection to climb this. Anyway, at the top of the slab, about 20m up, there appears to be a horizontal passage heading off on both sides. The apparent passage heading left (NW) would take you back towards Hugh's first lead. The apparent passage heading right (SE) would take you to ?

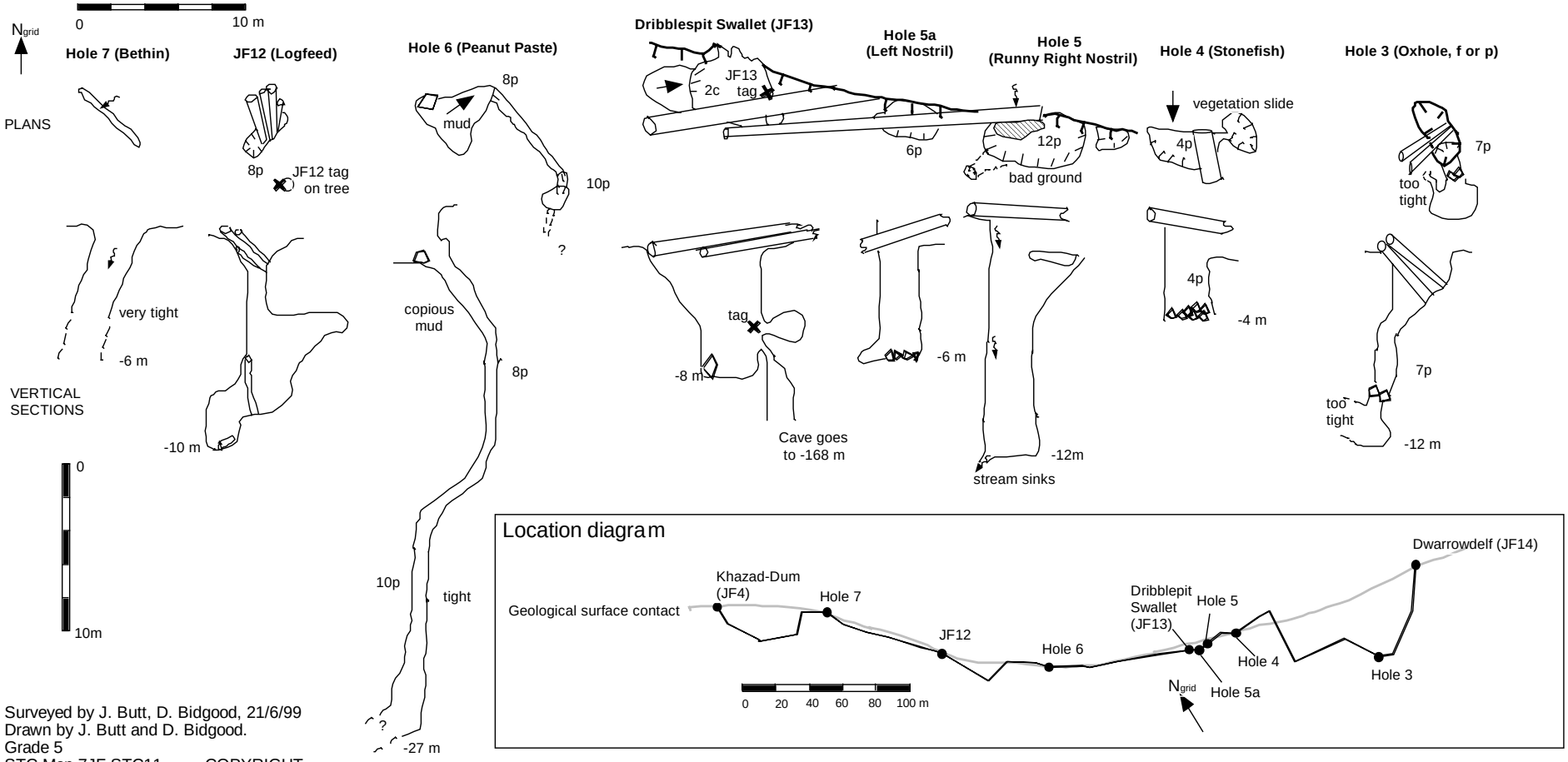
[On a trip on 12/6/99, Jeff and Damian Bidgood surveyed the Basal chamber and tied in the starts of all the leads mentioned above. JB]

## Jeff's lead in the Depths of Moria:

Partway along the small passage beyond the first sump, just opposite the 2m climb down to continue to the second sump, a hidden, tight serpentine passage on the left was noted. It appears not to have been investigated before. A few squeezes along the 10m of serpentine passage led to a small aven, about 5m high with a tiny stream entering. There are two leads here; the first ascends from the top of the aven (it would be not that hard to climb this); the second is perhaps more interesting, it is another tight formation rich rift that heads off to the right.

[PS. The Depths of Moria, and the three leads described by Hugh would benefit from being surveyed. The distance between the Depths of Moria and the upstream portions of Cauldron Pot is estimated at about 100m in the horizontal and 15m in depth... Some work in this area has the potential to pay good dividends; so getting a couple of teams into the area to explore and SURVEY would be extremely beneficial. Let's do this job properly later in the year; properly surveying the Depths of Moria has been talked about for 20-25 years! - JB] ♦♦♦

# Holes/Caves along the contact between Khazad-Dum and Dwarrowdelf







Surveyed by J. Butt, D. Bidgood, 21/6/99
Drawn by J. Butt and D. Bidgood.
Grade 5
STC Map 7JF.STC11 

# Surface Exploration Near Khazad Dum: 20-21/6/99

**Party (20/6): Dave Rasch and Jeff Butt. Party (21/6): Damian Bidgood and Jeff Butt By Jeff Butt**

## 20/6/99:

We headed into JF14, and then to JF233 (Troll Hole), which had a good breeze blowing. Dave said he didn't find it last time, but instead found many other holes. We went for a bit of a wander in the direction of Cauldron on the contact and found ourselves in the holiferous area that Dave mentioned he found last time. A couple had number tags, JF3 and JF42, many didn't. (One day these should be linked in with the survey of the area, they are in an interesting position!) According to the Karst Index, JF3 is 48 m with a 41m pitch and JF42 is an 18m pitch.

We then headed back to Dwarrowdelf and to the hole Dave found on our last trip (HOLE 3). We left a labelled pink tape there. From then on, basically we wandered along the contact toward KD, (re)finding many other holes (HOLES 4, 5, 6 and 7, which we also taped and labelled) and JF13 (Dribblespit) and JF12 as well.

From KD Dave wanted to go up and look at a feature (Grid Ref. 639704, 730m ASL, i.e. above the contact) on the topo. map that had intrigued him for a while. The map said it was a broad flat knoll about 100m in diameter, but Dave wasn't convinced, so why not, we decided to visit the "thing", and a waypoint was duly entered into the GPS. Not very far from KD we found a hole disappearing under a tree (HOLE 8), there was some old biodegradable blue tape on a bush just in front of it, quite far gone. [This sounds like a hole found by Stefan Eberhard in 1986 whilst seeking Hairygoat Hole (JF15), "a pothole 1m in diameter, well concealed at the base of a Sassafras tree", see Spiel #222). We added a pink tape. We then headed up under the control of the GPS (and compass, just in case!), across the contact, and soon the scrub got thicker, and nastier with lots of Ghania and Pandannis. We must have been close to "THING", but it is hard to actually decide when you are on the top of a broad low scrubby knoll! So, we decided enough was enough and that THING, stood for Thick Hindering Impossible Nuisance Growth. Surprisingly just where we decided to toss it, we found a line of about 4 yellow tapes.... so someone else has been here, but they just led into the thickest Ghania around, so we beat a retreat back to the open rainforest in the karst.

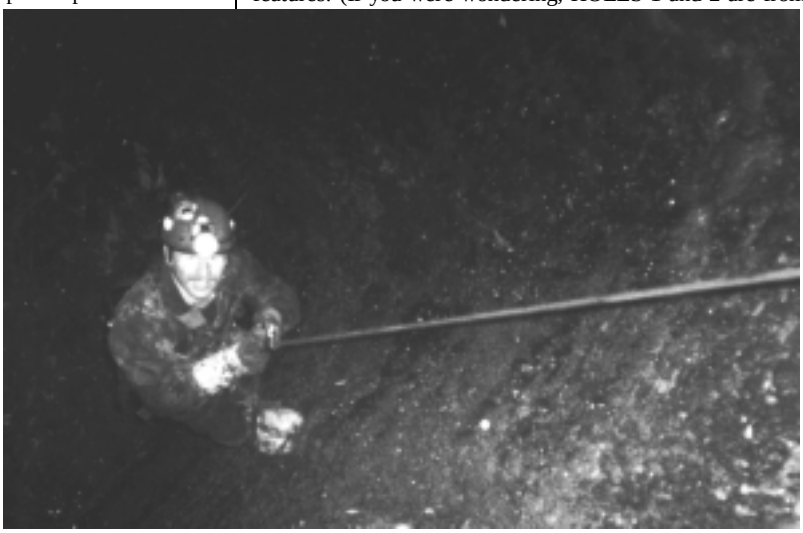
We came across a good gully with a swallet in it. There was an old orange tape there, but we didn't see a tag. We added a new pink tape. About 30 m downhill found a bedding plane cave, with a JF9 tag inside it, virtually at the end of the cave... Some of these number tags are in strange places! From reading some old Spiels, the swallet we located is JF10, Splash Pot, which is also numbered, but the tag is actually down the first pitch...a pretty useful spot!

## 21/6/99

Damian and I had planned to visit Troll Hole and check those few remaining leads, there was a great draft there on 20/6, so there is probably more to the cave than is known as present! But, 'she who must be obeyed' had given a "Be home by 6 p.m. Command", and so we decided not to risk a fate worse than death, and so decided to leave Troll Hole, and to instead survey our way from Dwarrowdelf to KD and have a look at Holes 3-7 en-route. Having just done this trip yesterday, everything was fresh in my mind and we didn't miss a beat.

We surveyed our way from the JF14 tag to the JF4 tag, and joined in the JF13 and JF12 tags, plus HOLES 3-7 en-route. [From this work, it was revealed that JF4 and JF14 are at roughly the same height and that Khazad Dum is only ~270m deep, not ~320m as has been quoted for years!! See a separate article about this in the Spiel.]

Here are some notes about the HOLES to go with the accompanying surveys. Note: a plan of the locations of the holes in relation to the JF4 and JF14 entrances are shown to aid in relocating any of these features. (If you were wondering, HOLES 1 and 2 are from another trip.)



*Damian Bidgood Hole Bopping. Photo by Jeff Butt.*

HOLE 3 "Oxhole, f or p". Whilst cleaning out the logs and debri in the bottom, I found the floor disappearing beneath me, so got a rope to make further cleaning safe. Damian then bopped this hole, it is about 12 m deep, mud filled and there is little prospect.

HOLE 4 "Stonefish" A 4m pitch to an infilled chamber. There has been a 'vegetation slide' above this hole, perhaps it was a goer one day, but now it has a large amount of debri in it.

HOLE 5 "Runny Right Nostril" A nice elliptical shaft about 12m from Dribblespit, with a small creeklet running in. A 12m pitch with a pool of water below, which soaks into the floor. Presumably this is the water that is in Dribblespit.

HOLE 5A "Left Nostril" Another elliptical shaft between Dribblespit and HOLE 5, about 6m deep, but again it's a no go.

HOLE 6 "Peanut paste" A mud ramp leads to a rift parallel with the contact, the bottom drops out of it, but the grotty and narrow rift exceeded the length of the 22m rope we had. Damian estimated it as 27m deep, and it still goes. So, it needs to be visited again to clear it up.

JF12 , which according the karst index is unnamed. A name of "Log-feed" might be appropriate, as the profile looks like a funnel leading logs to a chipper. The entrance is nearly choked with logs and there are some inside. An 8m pitch to a largish chamber, which undercuts the surrounding surface. Overall it's about 10m deep, but that's it.

HOLE 7 "Bethin" No time for this, but given it's proximity to the ~15m cliff, one wouldn't be surprised if it just ends up coming out in the valley below...that is if you can get into it, it's very narrow, Be Thin! ♦♦♦

# Northern Cavers Down for Some Southern Fun: 3 & 4/7/99

**Party: Andrew and Janice March (NC), David Wools-Cobb (NC, SRCC), Steve Blanden (SRCC), Paula Barrass (NC) and Jeff Butt.** **By Jeff Butt**

This was a 'well in advance' planned weekend for some intra-club caving in the 'deep south'. All was not to be tough though, as we had planned to take advantage of the hot showers, beds with sheets and comforts of the Tyenna Valley Lodge (TVL) and the Cockatoo cafe.

The weather had been quite stormy and wet early in the week prior (about 50-70 mm in the area, with part falling as snow, see some figures below), and on our fist sortie to Junee Resurgence attested to that; it was running a banker with quite a turbid and growling flow (it would have been interesting to read the stream gauge a short distance inside, but I didn't think of it at the time). With the normally placid Junee resurgence Growling, I guessed that the normally Growling Swallet would be Thundering.

We soon were up the end of the eight road and walking in. Several large trees have come down (probably as a result of the mid-week land-gales) across the track. And, as predicted Growling Swallet was thundering. It was immediately apparent that we weren't going to be using that entrance (we had originally planned a Slaughterhouse Pot (SHP) through trip) today. Plan B was an in/out SHP. Some of my visitors were a bit taken aback by the gripping (and this day, very wet) start of SHP, but soon we were into the spacious chamber above the first pitch.

Some had a few SRT 'teething troubles' en-route, but by the second pitch everyone was into the swing of things. Once down the bottom (the last pitch was quite wet) we headed off for a quick look 'further in'. Trapdoor stream was flowing quite well. After a short detour to the scaling pole aven (a good project would be to remove this slowly decaying scaling pole) we were stopped in our tracks about 4 steps down the passage by a pool of water. Yes, Herpes 3 was well and truly flooded; about 10m under water now. The water would be part way up Avon's Aven as well; I was feeling very glad not to be staring down at this pool from above!

David and Paula started out, Janice and Andrew dined. Meanwhile I took Steve through to show him Windy Rift. I had expected the whole area to be vibrating with the stream in flood, but instead the area was eerily still and silent. Ahh, I thought, the Growling stream has sumped out. As I peered down Windy Rift, I could see water about 5 m below the chockstones and I could see the level slowly rising. I watched it for a few minutes and decided that it would be safe to duck through the rift for a quick look at the passage leading to the stream. It was quite interesting to see the normally 'walk though' passage a dark and foreboding sump. I didn't dilly dally, as I certainly didn't want to be marooned in this part of the passage. (Trevor Wailes reports that he has found the ladders leading down to Windy Rift 'washed through' by the water; so the water really can come up a significant amount in this area.) It was by far the most water I have ever seen in the cave; I was certainly glad that we weren't on the other side of either Herpes 3 or Windy Rift.

[For the meteorologically/statistically minded of you, the rainfall figures for nearby Official Met. Stations is given below; they are some distance from the JF, but give an idea of rainfall totals in the region. Note that quite a bit of this rain fell as snow on Mt. Field and most melted during the latter part of the week adding to the run-off.]

| Station<br>Rainfall | 24 hrs to 9 a.m. Wed. | 24 hrs to 9 a.m. Thur. | 24 hrs to 9 a.m. Fri. |
|---|---|---|---|
| Strathgordon | 20 mm | 26 mm | 19 mm |
| Bushy Park | 2 | 3 | 6 |
| Lake St. Clair | 15 | 11 | 25 |

We all exited SHP without incident, but not without a considerable effort on some people's part. The main problem however, was that we were late for our 7 p.m. dinner reservation! Good fortune was with us, as the staff were still there and were happy to take our order.

With that warm glow that comes from sated appetites and some red-wine under the belt, we retired to the cosy fireside living room and chatted the evening away. The wine had gone to some souls heads though, as people were seen outside near 11 p.m. playing with hoses and grotty caving gear. The formerly cosy living room soon became a steamy drying room as thermals were smoked and knickers Chernobylled by the fireside.

Some muscles were a little sore the next day, but this was soon forgotten as the spectacle of the "Mighty" (Dean Morgan and Kelly Miller in Dean's new 'company car', a "Mighty Boy utility") caving team arriving. Not sure if you have ever seen one of these Suzuki utes, but the tray takes about 2 pack-fulls of gear and the body just two people. We jested that you could take the whole car caving, it would fit in most caves in the JF, and make toting packs a lot easier.

Dean and Kelly were off to the entrance of Cauldron Pot to take some 'glamour' photographs. Not sure how they turned out, but maybe the front cover of the next Spiel may reveal all! After watching the spectacle of babes, bikinis and big pitches it was Kelly's turn to head down the pitch and so we decided it was time to actually go caving ourselves.

Our original plans were grandiose, to do an exchange trip in the top bit of Khazad-Dum, but the general consensus was to have a slack day; some even hinted that they didn't want to go caving at all! What are these northerners made of? As a compromise we wandered up to KD and had a general wander around the top sections of the Serpentine route and Main drag. It was quite amusing watching some 'limb-length challenged' members tackle the 'long-legged' moves over the holes of the false floor in the Serpentine route. David snapped a few photos to boot.

We were back on the surface early, and so I co-opted the available person power to have a pleasant stroll on the surface and survey from Splash Pot back to KD, to build on our current work in the area. With this accomplished, we headed back to the TVL to pay our modest account (staying at the TVL is great value and is recommended. Just be careful not too enjoy it too much or you are at risk of spending the day in the Cafe instead of going caving!).

All in all it was a fun weekend in the deep south. Several people achieved personal milestones, their biggest pitch, their deepest and coldest cave and their most salubrious caving hut!

♦♦♦

# The Significance of Invertebrates in Caves, Such as Newdegate Cave

**By Arthur Clarke**

Caves are often networked or linked together as systems by the minute connecting cracks or voids within karst areas: the term used to describe those subterranean (and surface) landforms derived by the solution of carbonate rocks such as dolomite, here in the Hastings Caves karst where *Newdegate Cave* is located. Since this network of inter-connected air (or water) filled cracks and voids allows for movement and dispersal of the invertebrate fauna, it can be termed as a "karst bio-space". Some of the obligate species found in *Newdegate Cave* may also be found in some other caves of this Hastings karst area, but not in the cave systems of other karst areas such as the nearby Ida Bay limestone karst, barely ten kilometres south of here. In terms of cave fauna, karst areas and sometimes the individual caves of karst areas, are considered to be like "islands" - each containing a separate suite of species, often species of the same genus or similar genera, e.g., the harvestmen and carabid beetles.

Due to their separation from surface habitats and other cave systems, the breeding populations of many of these hypogean species, including the "troglobites", have become genetically isolated from a larger gene pool - resulting in the evolution of a number of distinctly different species, often with limited population numbers. This isolation or separation from both surface habitats and other karst areas has lead to the evolution of many species that can be described as "distributional relicts". Some of these relict species are known obligates in *Newdegate Cave*, including the aquatic flatworm, crangonyctoid amphipod and possibly the anaspidacean syncarid plus terrestrial species such as the amaurobiid spider and troglobitic harvestmen, pseudoscorpion, beetle and springtail, which all have ancient lineages, so in fact it is quite probable that the present populations may represent a lineage of species that are older than the cave they live in today.

The troglobites and other distinct obligates considered as relict species here in *Newdegate Cave* may be the descendants of surface dwelling species that "died" off, possibly millions of years ago, perhaps when the earth surface was warming. The cool and moist habitat of the caves has provided a refuge for these species to continue evolving, independently in different cave or karst areas with no living surface "relatives". An example of this is the larger of the two cave harvestman in *Newdegate Cave* (*H. cavaticum*), which is also described as having a "disjunct distribution" because of the separate occurrences of different, but corresponding species of the same *Hickmanoxyomma* genus in several separated cave or karst areas in Tasmania.

Some of these cave species have distinct, but related "family members" of the same genus or similar genera in other countries, such as India, South America, Madagascar or parts of South Africa: regions that were once part of the former larger continental land mass known as Gondwanaland, some seventy million years ago. Such species are commonly referred to as Gondwanan relicts and include the Tasmanian Cave Spider (*Hickmania troglodytes*) and the carabid beetle (*Idacarabus cordicollis*).

Caves such as *Newdegate Cave*, which have a relatively stable (damp to wet) environment with constant high humidity and low temperature are recognised as one of the few habitats which have the highest levels of invertebrate species endemism - a term used to describe the species which are "native" to an area. Amongst the Tasmanian endemics found in *Newdegate Cave* there are:

- Terrestrial gastropod (land-snail): *Caryodes dufresni*
- Aquatic gastropods (Family Hydrobiidae)
- Anaspidean syncarid: *Anaspides tasmaniae*
- Aquatic (crangonyctoid) amphipod: *Antipodeus sp.*
- Cave carabid beetle: *Idacarbus cordicollis*
- (Epigean) scarab beetle: *Saprus griffithi* Blackburn
- Cave adapted springtail: new species of genus *Trogolaphysa*
- Opiliones (harvestman): *Hickmanoxyomma cavaticum*
- Tasmanian Cave Spider: *Hickmania troglodytes*
- And the possible synotaxid cave spider: *Tupua sp*

♦♦♦.

# A Summary of Recent Caving Incidents

*Only one minor incident over the last two months, the details are below. Just a reminder, that incidents are being written up to try and prevent repeats, not to embarrass those concerned*

*Ed.*

**Dwarrowdelf: 5/6/99**

Party-Hugh Fitzgerald, Jeff Butt, Jol Desmarchelier, Trevor Wailes, John Palmer, Alaric Bennett and Matt Holl.

**Problem**: Minor injury to foot which was ignorable in the cave.

**Solution:** Ignore it!

Whilst Hugh and Jeff were stuffing a rope into a pack at the top of the 6th pitch a descending caver dislodged a small stone, which spiralled downwards and hit Hugh on the foot. Both Hugh and Jeff were away from directly beneath the pitch, but were not as far out of the way as possible. Hugh felt the impact and commented on it, but did not think much more about it. He is now having some problems with a resulting soft-tissue injury (X-rays taken a while after the incident show nothing broken). Having cool feet at the time may have masked the injury somewhat.

So, even if you think you are well out of the way, you might still be in the firing line, as falling stones do tend to move in large spirals and can bounce from walls etc. Perhaps steel capped gumboots might have helped, but the stone hit the main part of the foot, not the toes.

If you are descending a pitch and there are people below, take extreme care not to dislodge (either via yourself or a dangling pack, which is less controllable) anything. If something does go, a LOUD call of "BELOW" will give some measure of warning to those below, who might be able to shelter or press up against a wall etc.

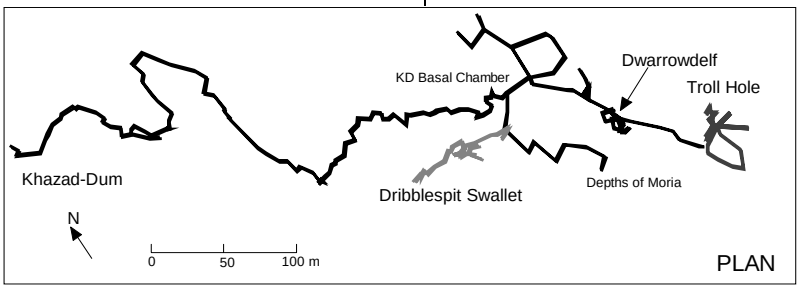
♦♦♦

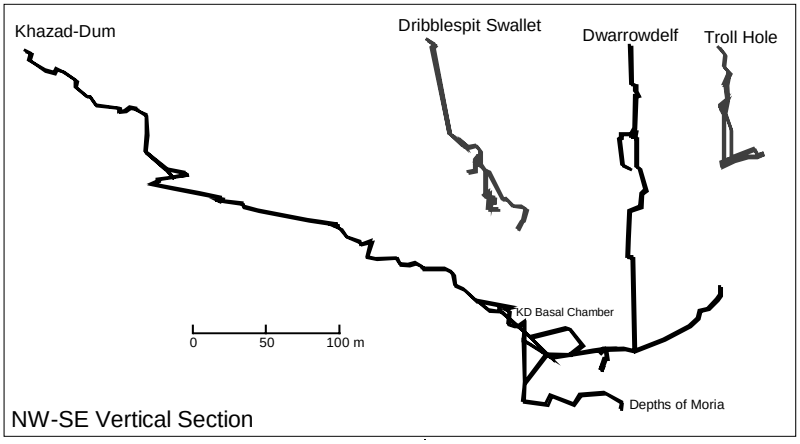
# Dribblespit Swallet (JF13), A Small Extension: 27/6/99

**Party: Dave Rasch, Andras Galambos, and Jeff Butt** **By Jeff Butt**

Having recently located the entrance to Dribblespit, and sussed out that the bottom of the cave was within spitting distance of Khazad-Dum, we thought that it must be visited. [A couple of On Station line plots below show the location of Dribblespit in relation to both KD and Dwarrowdelf.]

We armed ourselves with a copy of an article by Rolan Eberhard (Eberhard, 1989), noting that Rolan said *"Dribblespit is a surprisingly demanding cave for its depth (~168m). Those cavers who enjoy the more testing trips may find it to their liking. For others, however, Dribblespit has little to recommend The mud, friable rock, squeezes and awkward rifts, tend to exceed what normal cavers consider to be within the bounds of reasonableness."*



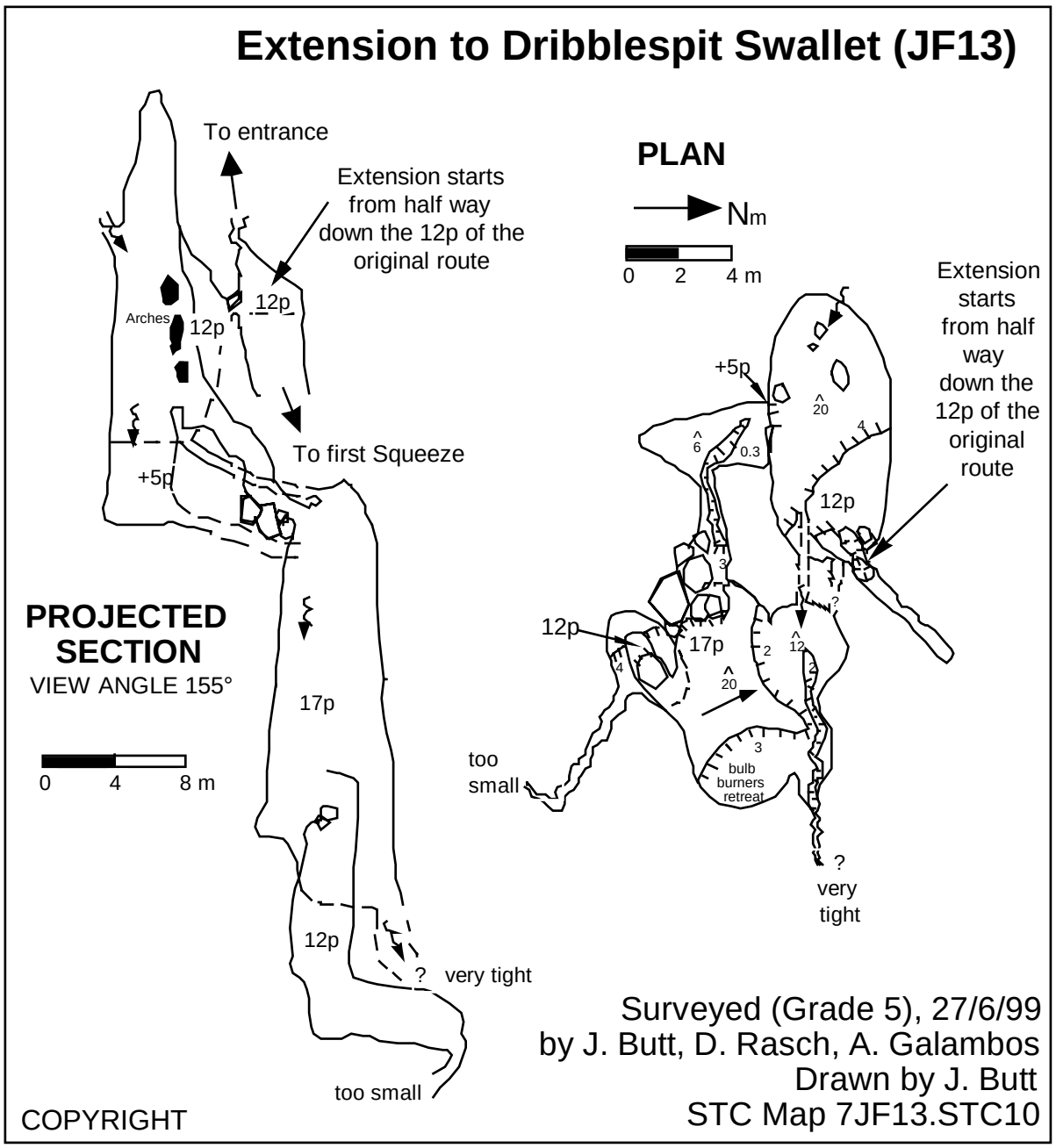




*The Relationship of Dribblespit Swallet to the Khazard-Dum System*

We were to find out that this was a very accurate appraisal. Rolan mentioned where the survey stopped, and thus another aim was to survey the lower reaches to be able to more accurately see the relationship between the deepest part of Dribblespit and KD (which at the point of closest approach is about 60m away).

For a start, the 66m entrance pitch is quite formidable. There are several ledges/alcoves down about 16m, where it would be nice to rebelay, but the rock is extremely crappy. We managed a deviation here, and then managed a rebelay down a bit further (at the large shoulder of rock mentioned by Rolan . . . we used an 8m tape around it, and then dropped a 2.5m trace from it to get a free hang, a single 14-15m tape would be ideal). We then had a brilliant 40m free-hang to the floor. Can't say I was 100% happy about this pitch though, the large shoulder is bedded at 45 degrees sloping outwards and I did hope that today wasn't the day it would slide off; up above the rebelay there are a couple of minor rubs which weren't great with 9mm rope and only crappy rock to try and hold deviations. A bolt in the floor (seems to be sound rock) of the alcove, with a trace/tape hanging over the edge would be safer alternative for any revisit. We soon found the Topofil line (red cotton) left behind from the 1988 survey. This cotton doesn't decay very fast and should be removed on the way out by Topofil surveyors. Being in lots of piece makes it damn hard stuff to collect, though there we did manage to remove some, primarily as bits and pieces of red cotton tangled onto our ropes. We roped down the first 'climb' and then down the 12m pitch. Dave at the cutting end was first into the first squeeze. He mucked around in there for some time, and emerged saying that it was pretty wicked (perhaps he wasn't in the best spot?).

He stated that to get through you'd have to be in an evil squeeze pushing mood, but it was possible. However rope from our full packs would have to be decanted for them to get through. With pain and suffering at stake, we thought about Plan B, we weren't there to try and just follow where others had been, we were looking for something that might have been missed (especially leads to the north and down). Halfway down the 12 p there was a second chamber, lightly sketched on the projected section of the original survey. We decided we'd check that area out. At the bottom of this pitch there were some tight passages, one taking the water that came in down the opposite wall. Dave poked his feet into a higher dry passage and kicked a hole through to hear rocks disappearing down a sizeable not a skeric of decent rock to put a bolt in either. We were definitely in new cave, you could certainly see where we had been. Dave gardened a couple of huge 'death rocks' from the edge of the pitch and descended 17m into a large (8m by 6m) chamber, with a streamlet (the same water we had just left behind) coming down into it. We thought that perhaps we had bypassed the first squeeze, and that we had just come into the other side of the 18 p, however, there were no signs that anyone had been there before, nor any tell-tale Topofil string. We thought that somewhere just through the wall must be the main drag (this idea is supported by the attached survey), this area is a weird place, like honeycomb, except that the cells are largely filled with mud and shitty rock, not honey! Downstream turned into a characteristically Dribblespit type of jagged, tight and muddy canyon. Andras spent some time trying to post himself into here, but didn't make much more than a body pitch, presumably the 5 and following 18m pitches of the main drag? Something didn't quite make sense with this idea though, that squeeze seemed to be too far away. Dave said there had to be a pitch somewhere near us, then I spied a hole about 5m up the other side of the shaft; Dave and Andras from a higher ledge managed to lasso a blade of rock on the lip and I gingerly prussiked up and after a bit of squirming managed to get into the hole behind, parts of the blade falling off in the process, but I was in. From there a fissure led off to a sizeable pitch, as Dave had predicted. I assisted Dave and Andras with the manoeuvre I'd done earlier, and we three were in the alcove, and a significant proportion of the blade of rock was now down below. Dave rigged the fissure (in which we could detect a slight breeze) and subsequent pitch, but the rock was extremely crappy, test anything too well and it becomes unusable as any sort of anchor, not very inspiring . . . and



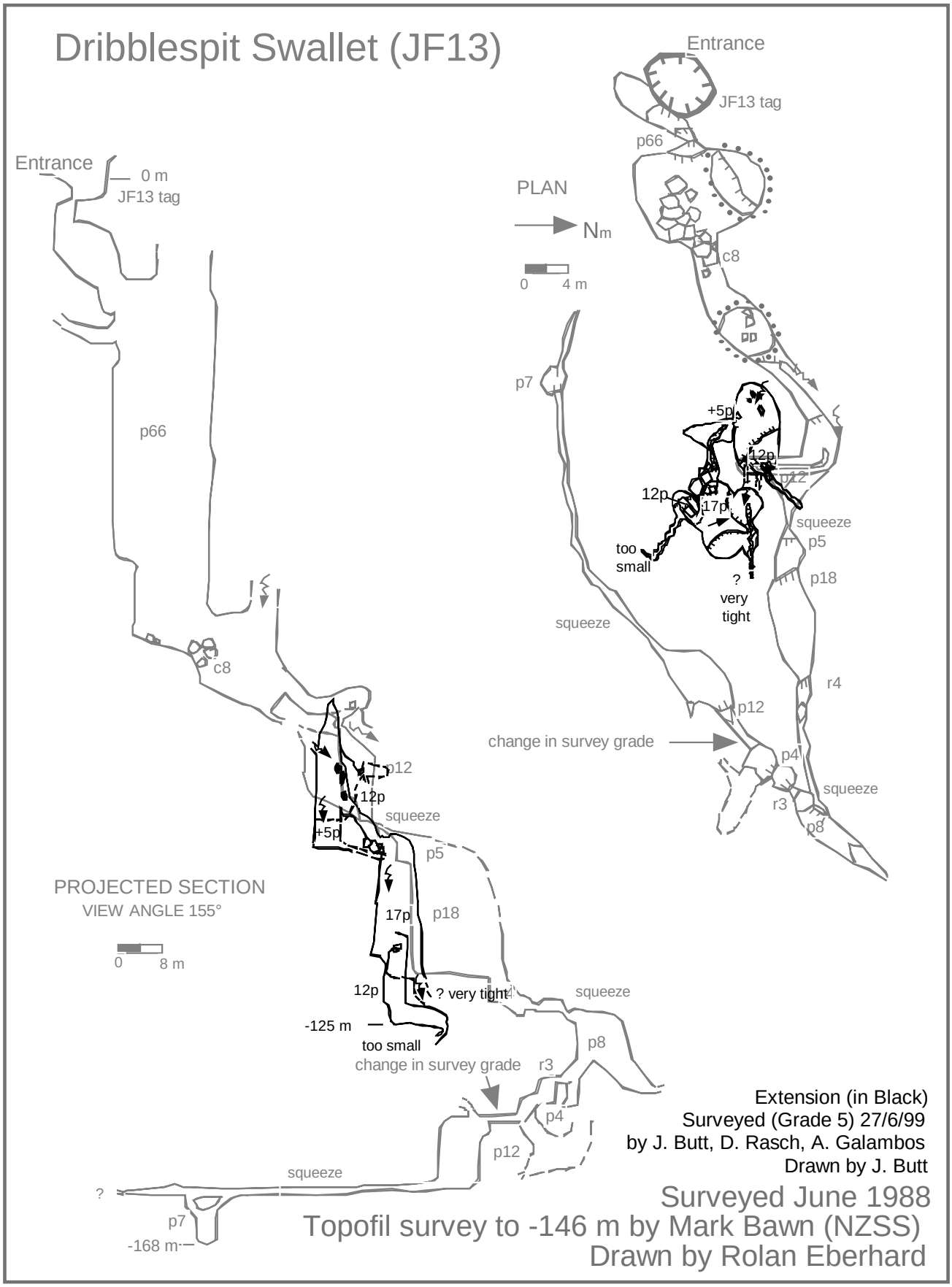

length of progress. With a heavy implement one could get further . . . all you 'evil squeeze pushing fiends' take note!

Elsewhere in the chamber I noticed a hidden passage, and found myself looking down another undercut pitch with a large dubious chockstone 'guarding' the pitch. We couldn't garden it, but it moved, so some fancy rigging that avoided it allowed us to descend beneath it. At the bottom (12m) was an impossibly tight Dribblespit canyon heading off, again with a slight breeze. This area is at about -125m (and according to the survey more or less over the lower reaches of the cave). We decided to return the main drag, surveying as we went. Time was against us and the amount of accumulated mud on our gear was problematic (ascenders wouldn't grip etc.) as we headed back to the main drag. At the time we all felt that this was a cave that we'd rather not return to in 2 weeks (which was part of Plan A), so we decided to de-rig on the way out. We ended up having 'one of those trips', failing lights, greasy ropes and a bit of a grunt, and emerged to the light of the full moon about 11p.m. (after a noon start).

But of course, now in hindsight it didn't seem that bad, and in time we will probably be lured back. But make no mistakes, Dribblespit lives well up to Rolan's description.

The attached survey shows our extension, and for completeness I have added our surveyed extension (in black) to a tracing (in grey) of the survey done by Mark and Rolan. The extension that we found (~100m of passage) lies in between the main drag down and the lower horizontal arm of the cave (as shown). So, we didn't end up any closer to KD, but we did have a 'trip'. I think I am speaking for us all in saying that a much friendlier way of chasing a possible connection between Dribblespit and KD would be by climbing the rifts above the KD streamway.

**Reference:** Rolan Eberhard (1989), 'Dribblespit Swallet, JF13', Speleo Spiel #247. ♦♦♦


Dribblespit Swallet (JF13)
Entrance
JF13 tag
p66
PLAN
Nm
0 4 m
c8
p7
+5p
12p
p12
12p
17p
squeeze
too small
p5
?
very tight
p18
squeeze
r4
p12
change in survey grade
p4
squeeze
r3
p8
Entrance
0 m
JF13 tag
p66
c8
p12
12p
squeeze
+5p
p5
PROJECTED SECTION
VIEW ANGLE 155°
0 8 m
17p
p18
12p
? very tight
squeeze
-125 m
too small
p8
change in survey grade
r3
p4
p12
squeeze
?
p7
-168 m
Extension (in Black)
Surveyed (Grade 5) 27/6/99
by J. Butt, D. Rasch, A. Galambos
Drawn by J. Butt
Surveyed June 1988
Topofil survey to -146 m by Mark Bawn (NZSS)
Drawn by Rolan Eberhard

# Wolf Hole-"How Not to Impress a Pretty Girl" A Lesson in Organisation: 3/6/99

**Party: Tim Anderson and Mirjam van Burgel** **By Tim Anderson**

What else do you do with pretty girls from exotic locations except take them to see Lake Pluto? How more romantic could it get...especially if they are keen climbers but know very little about caving. Mirjam was visiting from Holland and had never been into anything other than tourist caves, so I thought this would be a pleasant introduction.

The trip out was uneventful. After picking up gear from Jeff, we headed out on a slow drive at about 2p.m. on Thursday, planning to get into Wolf Hole as it was getting dark, and then go for a midnight dip in the Thermal Pools.

The best laid plans however, often go astray. We arrived in a shower of rain and I realised that I had left my helmet behind. No problem, I just tied a sling around my forehead and clipped the light onto it. Easy. The track up is of course well marked so we had no problem finding the cave entrance and I kitted Mirjam out with the gear and let her go first.

Perhaps it was the fact that I was being scatterbrained, but, and this is a big but, there is really no excuse to leave the caving bag behind when one abseils down the pitch! Oh dear. I hadn't even realised my mistake until I went down on my hand and knees to go through a small opening and discovered that it was suspiciously easy: no bag to drag behind me.

Even then, it did not occur to me that I had left the SRT gear at the TOP of the pitch, rather I was alarmed at the thought that my chocolate was out of reach for the next few hours.

Then, after reaching the end of our caving trip, having duly visited the lake, I started to think about how silly I had been. No SRT gear, a visiting friend, and a long rope to get up. Amazing how you half do things which later get you out of trouble, but for some curious reason I had put on the chest ascenders before we abseiled: hey presto, a few slings tied together and I had a serviceable SRT set up.

So, up to the top. Down with the right gear. Out of the cave and looking forward to the Thermal Pool. Almost immediately we got lost in the forest in the dark. How can you do this with such a well made track I hear you ask? Well, you come caving with me one day and I'll show you. Much mucking about got us to the car however, lured on by the thought that, after all of this effort and buggering around, a swim would be just the thing. ARRRRRGGGGHHHHH. It was EMPTY! Six inches of cold, scummy water to puddle in. Strike three for Tim's effort to impress the girl.

What were the gods going to throw at me next? Thinking of Jeff's recent driving experience, I very carefully motored back along toward Hobart, when inspiration struck. Wood Fired Pizza was my only chance to salvage the situation. How could a girl resist? And so, a happy ending. The pizza place was open, my friend satisfied, my embarrassment subsiding, and a rosy evening ahead. Ahh bliss.

A note of caution then to those blokes who find themselves with love goggles on while organising a caving trip: take 'em off for long enough to sort out the gear, get into the cave safely, get out again, eat and drive home. THEN PUT THEM BACK ON.

♦♦♦

# RATS taking over the WHA…

# And the Future Tourist Development of the Hastings Caves Area

**By Arthur Clarke**

Earlier this year (1999), the Tasmanian Parks and Wildlife Service (PWS) introduced a new terminology into their future planning operations for World Heritage Areas (WHA) in Tasmania. Following the increased demands for public access and private development in the WHA - PWS have introduced RATS - the acronym for their new “Recreation and Tourism Strategy”. RATS is being worked in conjunction with a Visitor Strategy (VS) project, designed to look at all sites managed by the PWS and set a broad management framework for what will be offered to visitors.

The RATS project was introduced as a concept devised for future management of popular tourist areas in and around the WHA in Tasmania. It has become very apparent that the WHA is an extremely important asset for tourism, hence the considered need for an analysis by RATS. This analysis will examine visitor data, visitor needs, the quality of visitor experiences, the present Visitor Services Zones and Sites, visitor facilities, signs, interpretation and impact on the environment. The analysis and the development of the strategy will be undertaken in association with Tourism Tasmania, the Office of Sport and Recreation and Forestry Tasmania. The strategy may lead to a different mix of facilities or services at existing sites and may also identify the need for the development of new Visitor Services Sites. (Excerpted from the WHA Draft Management Plan 1997: page 52). As part of the RATS project, the PWS will be conducting site visits to each of the main WHA access points. The designated purpose of the site visits is to create a strategic vision for each major site, i.e., to gain a qualitative (values and attitudes) picture of how each site should be presented for the best visitor experience. It will be used to complement the quantitative data from the visitor surveys.

Three (or four) southern Tasmanian areas were considered in early March this year when PWS officials, land management personnel and members of the general public including those with vested interests were invited to attend on-site inspections and an evening workshop relating to themes discussed at each site. The four selected sites were Hartz Mountains, Cockle Creek/ Recherche Bay area, plus two of our southern karst areas: Ida Bay and Hastings Caves. Despite the fact that the Draft Management Plan for the Ida Bay karst area has not been finalised, the Ida Bay karst was given

some consideration by RATS with particular regard to its recreation values for cavers and the tourism potential for commercial users. Although the Ida Bay karst was only briefly mentioned, the topics for consideration included the planning infrastructure and maintenance of established access tracks for recreational cavers and speleologists, plus the increasing demand for both outdoor education or tourist access to caves such as *Mystery Creek Cave*, *Exit Cave* and *Loons Cave*.

Although the present Hastings Caves Reserve is not currently in the World Heritage Area, the Reserve is now bordered and partly enclosed by an extension of the Southwest National Park (WHA) boundary as a result of further land reservation outcomes from the Regional Forest Agreement (RFA). This extended WHA boundary also encloses much of the North Lune karst area, a limestone area which abuts to the western extremity of the Hastings dolomite and incorporates a large area of karst and glacial features drained by the northern headwater streams of the Lune River, including *Mesa Creek* and *Gleichenia Creek*. This North Lune karst area and one of its caves (*Spider Den*) was the subject of a nomination proposal for National Estate listing last year **(Clarke, 1998)**. The North Lune section of the WHA was not specifically included in the recent agenda for RATS, where the emphasis was on discussions of existing tourist facilities and new developments, as proposed for Hastings Caves.

The RATS forum provided "official" advice regarding future development proposals for the Hastings karst including the thermal pool operation and guided tours of *Newdegate Cave* that are now under the control of the "Hastings Caves Enterprise". This enterprise is run by a management committee composed of four people: the two private entrepreneurs from Dover (Ian and Sue Hall), plus two officers from the interpretation and recreation planning sections of Parks and Wildlife Service (PWS) in Hobart (Andy Roberts and Sue Haines) along with the co-opted services of the local PWS regional Land Manager: Mark Bryce. Oddly enough, the PWS karst officer (Ian Houshold) does not get a "guernsey".

Representatives of the enterprise committee outlined the proposals for future development at Hastings, where there would be a roughly equal injection of funds from government and the private sector. Ian and Sue Hall outlined their proposals for the expenditure of approximately $1million to construct four to six accommodation cottages, each with 6-8 beds, in the bushland area uphill behind the present office buildings and *Hastings Chalet*. PWS representatives described their plans to spend approximately $1.2million on a new infrastructure in the thermal pool/ Chalet area: demolishing the present office and cafeteria buildings, diverting the entry road uphill behind the Chalet, modifying car parking areas, building a new visitor interpretation centre and revamping the thermal pool area, including the establishment of an additional more natural thermal pool, plus more sheltered picnic and BBQ facilities for visitors. Both the Commonwealth and State governments are contributing funds to the project; the major component is coming from Commonwealth Government moneys, being funded from proceeds of the first sale of Telstra plus some additional NHT funds.

Initially, there was very little mention of where the caves or the karst features fitted into the future grand plan of things. The Esperance Municipality Council had established *Newdegate Cave* as a tourist cave in the early 1930's, initially in an undeveloped state, then subsequently developed with pathways, stairs and lighting in the late 1930's under the regime of the former Tasmanian Government Tourism and Information Service. Hence, tourist dollars had been at the forefront of cave management regimes for many decades. The tourist cave has been a "*milking cow*" for government coffers and used to support other structures including the thermal pool operation that seems to have run at a loss for several decades.

Similarly, during much of this earlier period of cave management, there was comparatively very little money for maintenance, combined with the fact that much of the discarded infrastructure of old wiring, light globes and construction timbers had been left in the cave or dumped where it was "*out of sight and out of mind*". In recent years there has been a push towards rehabilitation of *Newdegate Cave* in line with the changing attitudes of managers to cave development and conservation techniques that reflect the significant advances in the science of cave geomorphology and cave biology. The present rehabilitation and removal of discarded rubbish has been progressed in an attempt to revert the cave back to a state where natural geomorphic and biological processes can predominate, but still provide a tourist visitor experience **(Griffiths, *et. alia*, 1999)**. The new Hastings Caves Enterprise is mindful of these requirements and promises to expend some incoming moneys on continued maintenance and rehabilitation; some of the current injection of funds will also be used to institute a new system of cave lighting.

As an additional aspect of the new development, the Hastings Caves Enterprise proposes to use some funds to encourage a more extended use of the visitor sites here and possibly different visitor types. Apart from the accommodation cottages, the Enterprise is looking at developing Adventure Caving options and a number of surface walks to promote both natural (geomorphic and biological) and cultural (historical) features.

Suggested options for adventure caving include guide-assisted visits to *Binneys Tunnel* and *Binneys Chamber* within *Newdegate Cave*, guided tour parties in *King George V Cave* and possible visits to *Bradley-Chestermans Cave* and/or *Mystery Creek Cave* at Ida Bay - the latter in conjunction with/ or independent to the present visitor experience of "glow-worm tours" being offered by Andrew Hogarth from Lune River. All adventure caving groups are designed to finish back at the Thermal Pool - for a swim and barbecue meal. Guides would be employed on the basis of the numbers involved: one guide for 1-3 people; two guides for 4-8 people; with eight people as the maximum visitor party size. (However, the mind boggles at the thought of ten people: eight visitors and two guides going through *Binneys Tunnel* or in some of the small side passages in *King George V Cave*.) Some preliminary costings have been formulated based on four-and-a-half hour and six-and-a-half hour adventure caving experiences: respectively at $120.00 and $155.00 per head. These cost figures allow for provision of caving equipment (overalls, gumboots, gloves, helmets and Petzl headset lights); the 4.5 and 6.5 hour adventure caving experiences include allowance of time for the pool swim and barbecue (with meat and salads) provided.

A number of surface walks are also being planned. Some of the shorter walks include those around the thermal pool area and an alternate track from the caves car park to *Newdegate Cave*. Some medium length and longer interpretative walks are proposed based on a start-and-return to the caves car park. One of the suggested medium length walks would be a "surface karst" walk going from *Newdegate Cave* across the karst, passing the other two caves (*Beattie Cave* and *King George V Cave*) and other karstic features, plus cultural sites from old logging days. Such a surface karst walk may include the option for a guide, who could provide an oral interpretation as well as taking small parties into *Beattie Cave* - where a small viewing platform could be placed in the centre of the main chamber. Some of the possible longer walks proposed

include the trek north to *Adamsons Falls* via *Chestermans Road* and return, or along the southern track to *Mesa Creek* and return. Both of these walks would involve traversing along parts of the old logging tramways and passing other cultural relics from logging days. The latter option might possibly include linking in with the old circuit track that continues east from *Mesa Creek* to link up with the tramway track from the *Hogsback*, returning to the *Caves Road* beside the *Hot Springs Creek* crossing near the *Chestermans Road* junction. There is also a suggestion of an additional longer walk from either the *Caves Road* or the Thermal Pool area down to, and along the banks of, the *Lune River*.

Most of these proposed developments in the Hastings Caves and Thermal Pool area are still only in the planning stages and subject to both government and public scrutiny till final approval is given for a go-ahead. The future of the Hastings Chalet (the former *Caves Caretaker's Cottage*) is uncertain; there were suggestions it might become a museum centre, but it is more likely that the museum, if any, will be incorporated as part of the new Visitor Interpretation Centre. There has also been some consideration given to establishing a native animal nursery for rehabilitation of injured or orphaned animals, or simply as an animal viewing centre where visitors can see platypus and other native animals. Finally, there is also rumour that the State Government may be considering sealing the first section of road from the Main Lune River road up to thermal pool area, where the new visitor interpretation centre is proposed. However, it is unlikely that any of the new developmental projects will commence till at least early next year.

So, all-in-all, the next six to twelve months is likely to see some significant changes and expenditure in this Hastings Caves and Thermal Pool area… or as the sign says: "WATCH THIS SPACE". Four STC members were amongst those who attended the RATS workshop in early March, when all attendees were told that a feedback report would be forthcoming "*…in the next few weeks*." Although this has not yet materialised, it will be interesting to read the final report about RATS taking over the WHA.

## References:

**Clarke, A. (1998)** *Australian Heritage Commission - Nomination for the Register of the National Estate*: "*Spider Den*" *and North Lune karst area*. 25pp.

**Griffiths, R., Price, P., Clarke, A. and Houshold, I. (1999)** *Rehabilitation of Newdegate Cave, Hastings, Southern Tasmania*. Paper presented to 13th ACKMA Conference, Mt. Gambier, April 1999.

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# Chasing Leads in the Back-End of Mystery Creek: 29/5/99

**Party: Jeff Butt, David Rasch, and Joel Desmarchelier.** **By Dave Radich**

During several previous trips into the furthest reaches of Mystery Creek cave, we had noticed what looked like a high level horizontal passage heading off for 10m or so. This area is interesting because it is in the most probable area for a connection with Exit cave, should such exist. The passage appeared difficult to access and quite high up on the wall, so we took quite a lot of gear in with us with the aim of climbing into this passage by whatever means we could.

If one follows the right-hand wall when entering Mystery Creek cave, one eventually arrives in a large (100m long) chamber containing numerous large blocks of rock up to 10m across. The roof is very high here, and in scale and shape quite reminiscent of the Grand Fissure area in Exit cave. At the far end of this chamber, a muddy ramp on the LHS leads a further 50m to the start of a massive mud slope and terminal rockfall. The passage is so large here that, prior to the collapse, it surely must have once continued on into Exit cave. At the start of this rockfall zone it is possible to climb 3m up on the right into a drippy passage, where one is confronted by a horizontal phreatic passage that has been incised with a 1.5m wide x 15m deep vertical rift. A rock spike on the left provides a handy anchor for a short rope to assist stepping across this gap. From here, the passage turns right into a seriously muddy zone, where it is possible to abseil 15m down to a lower streamway level. All passages at the lower level appear to be blocked by rockfall.

About halfway down the abseil into the lower level, we noticed that the horizontal passage (the one we were interested in) was actually quite accessible by bridging a 1m wide slot for a distance of about 10m. We rigged a handline to assist with our return, attached all the packs of gear then did some exploring. Straight along the passage Jeff and I poked around in some rockfall. Above was an aven, with a possible draught evident here? Back a couple of metres down the passage, Jol entered a side passage on the left that led into a 10m x 4m x 15m high small chamber with a 45 degree sloping right wall. It appears that this wall is actually a section of the roof that has cleaved off. Jol investigated the far end of the chamber and climbed up a section of the wall but found no leads. I then used a large crack to climb right up the sloping wall to the top of the chamber where I found some formation and some large calcite crystals on the wall. Only one prior set of bootprints was evident in the lower section of the cave, and none at the top of the climb. So there is still pristine cave to be found in Mystery Creek!

Returning to the handline we down climbed and ended up in the lower streamway levels. Initially we thought we were in new passage, since all evidence of cavers had been washed clean.

We derigged the handline then headed back out to the rockpile in the large chamber area. Wandering as high as possible up the terminal rockpile, we craned our necks as Jol used his bright light to examine the roof area. Interestingly there appears to be a large slot very high up on the RH wall. It looks like horizontal passage but could also be an aven coming in. Definitely a scary bolt-climb that one day someone might consider.

Then we headed out carrying our heavy packs. Personally this trip was enough to convince me that the rockfall at the end of the chamber is too massive for any connection to Exit to be possible in this section. Still, Mystery Creek cave is an easy option for exploration and I'm sure it will receive some more attention in the near future.

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# Classifieds

# 4 Sale

**L**arge size **T**rangia stoves:
$50 each.
Phone: Mick Williams - 6297 6368

*STC has caving lamps and helmets available for hire to Schools, Scouts and other groups with responsible caving leaders. Contact the Equipment Officer for details.*

## For Sale: Lighting Stuff

### Sealed Lead Acid (Gell cell) Caving Lamp

Reconditioned Oldham headpiece connected to a new Yuasa 6 Volt/7 Amp. Hr. sealed lead acid (gell cell) in an Oldham battery case. Belt included. Very reliable. A robust and inexpensive light to cave by. Runs for 14 hours at 3W. $140. ($10 extra for QH option).

### Sewer Pipe Caving Lamp

Reconditioned Oldham headpiece connected to a 3 D-cell Sewer Pipe battery case, with belt. Run on Nicads (8hr duration) or Alkaline (18 hr duration) batteries. If you prefer an even smaller battery case, then a 2 D-cell option is available. Very sturdy and compact light; great for expeditions or international travel (you can get D-cells anywhere). Belt included. $140. (batteries not included) ($10 extra for QH option).

### Gell Cell Charger

Through the headpiece charging; small, robust and portable, runs off the mains or plugs into a car lighter socket. LED's indicate charging status. $80.

### QH Cave Blaster light (Really SEE the cave!)

50 (or 20) Watt QH dichroic bulb mounted in a PVC fitting. Convenient to hold in your hand. Secure switch that will not allow a Chernobyl in your pack! Runs off a 12 Volt sealed lead acid battery (extra)-$25.

Contact Jeff Butt, 62238620 or jeffbutt@netspace.net.au

# STC WaReHoUsE SaLeS

### Publications

- "Caving Safety 1 Manual", 92 pages, covers Planning, Safety, Maps, Gear, Rigging, Emergencies etc. — $15.00
- Back Issues of Southern Caver, Speleo-Spiel. There are various issues available. Please contact the Librarian, Greg Middleton (gregmi@delm.tas.gov.au) with your requirements. — ~$1 each

### Gear

- BATA full-length Gumboots, Black with yellow or green sole, no steel toe-caps. Sizes 5/6/7/8/9/10 — $25.00 pair
- CAVE PACKS, 30 litre volume, made from Heavy duty yellow PVC material, double bottom, reinforced seams, drain holes, large diameter eyelet's. Simple and sturdy. **ALL SOLD, BUT NEW ONES COMING!** — $60.00 each
- Aluminium Bars for Rappel Racks. — $5.00 each
- 5cm (2") plastic Tri-glide buckles, ideal for battery belts, cave packs etc.) — $0.80 each

### Tape

- Edelrid 25 mm tubular tape. Ideal for rigging, chest harnesses etc. (White) — $2.00 per m
- 5 cm (2") flat tape (ideal for harnesses, rigging, gear bags, belts etc.) (Blue or Red) — $1.50 per m
- 2.5 cm (1") flat tape (ideal for handlines, rigging, gear bags, etc.) (White) — $0.80 per m

### Safety

- 9 mm dynamic rope (for cows tails, safety loop) (Red with Blue/Yellow fleck) — $3.50 per m, e.g. Cowstail $10
- Space Blankets (don't be caught underground without one!) — $4.00 each

### Lighting

- Alkaline 4.5 Volt 'flat-pack' batteries (NEW STOCKS!) — $8.00 each or 3 for $23.00
- Eveready 6 Volt, 0.5 Amp Flange Mount Bulbs (#1417), Blister packs of 2 — $3.00 each
- Jets (21 litres/hr) for Petzl kaboom (just a couple left) — $5.00 each
- Miscellaneous second hand pieces for Oldham headpieces. — Contact us for details

### Tow Ropes/trailer tie downs/yacht mooring lines etc.

- RETIRED CAVING ROPE, no longer safe enough to use for caving purposes, but more than adequate for many other purposes. Available in various lengths. — $1.00 per m, less for the stiffer stuff

If you need any of the above please contact Jeff Butt on (03) 62 238620 (H), or jeffbutt@netspace.net.au, or write to us: SOUTHERN TASMANIAN CAVERNEERS, P.O. BOX 416, SANDY BAY 7006.