

NEWSLETTER OF THE TASMANIAN CAVERNEERING CLUB

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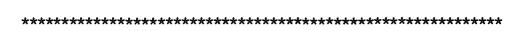
PREFACE

This special edition of Speleo Spiel presents the results of the Tasmanian Caverneering Club 1986 Speleological Reconnaissance Expedition to Precipitous Bluff. The expedition occurred over a 9 day period during Easter 1986. The club members involved were Stefan Eberhard and Nick Hume.

The principal objectives of the expedition were:

- (i) To continue the exploration of known cave systems.
- (ii) Locate and explore new caves, record their location and survey all discoveries to a high degree of accuracy.
 - (iii) Undertake collection and identification of cavernicolous fauna.
- (iv) To more precisely determine the extent and limits of the caverniferous limestone outcrop.

A brief resume of the expedition activities has appeared previously in Speleo Spiel #218. This report includes a more detailed chronological narrative on the expedition and descibes the speleological research undertaken. It is envisaged that the information contained will provide a useful foundation for the planning and coordination of future TCC expeditions to Precipitous Bluff.



Stefan Eberhard

ACKNOWLEDGEMENTS

Acknowledgement is due to Trevor Wailes for producing the cover, Stuart Nicholas for processing the survey data and for typing and editing the manuscript. The Tasmanian Caverneering Club provided caving equipment and survey instruments. Thanks are also due to the Tasmanian National Parks and Wildlife Service for sanctioning the expedition.

LOCATION and ACCESS

by Stefan Eberhard

Precipitous Bluff (146°36'E, 43°28'S) is located within the South West National Park some 8 kilometres north of Prion Beach on the central south coast of Tasmania. The area under discussion is covered by the Tasmap 1:100000 Sheet 8211 Huon, Sheet 8210 S.E. Cape and 1:50000 New River.

The area is remote and inaccessible. The South Coast walking track extends from Prion Beach to Cockle Creek, 35 kilometres to the east. Normal walking time is 2 - 3 days. Precipituous Bluff can also be reached via a more arduous route over the Southern Ranges, beginning from the South Lune Road at Ida Bay. Detailed descriptions of these walking routes are provided by Chapman (1978).

The shallow waters of New River Lagoon and the sand bar at it's mouth cannot be navigated by large boats, although a trip to the area by sea canoe is feasible. Landings on the South Coast have been made from fishing boats (e.g. Goede, 1978), but require stable weather and sea conditions.

Helicopter transport was used by the H.E.C. in 1983 and also the Australian National University during 1984 in unsuccessful searches for caves of archaeological significance (Steve Harris pers. comm.).

Light aircraft do not land on Prion Beach and the most convenient means of access to the area is by floatplane landing on New River Lagoon. Floatplane was utilised by the 1960-61, 1973 and 1986 caving expeditions as well as the Australian and New Zealand Schools Exploring Society expedition in 1978-79. Floatplane must be considered essential for the transport of the quantity of equipment required for serious speleological work to be undertaken.

TCC MICRO EXPEDITION TO PRECIPITOUS BLUFF 28 MARCH TO 5 APRIL, 1986.

by Nick Hume

PARTY: Stefan Eberhard and Nick Hume

This rather isolated karst area boasts the purest limestone known in Tasmania. It is located on the western slopes of Precipitous Bluff, extending roughly from Limestone Creek, southwest of the massif, northward to adjacent the New River. It is a pleasantly compact region, diversified by quite steep terrain above the main resurgence caves and offers the potential for vertical shafts to intersect major stream passage development, an exciting prospect for sport caving. Unfortunately depth potential is somewhat limited, the limestone being overlain by a poor calcareous siltstone at perhaps slightly less than the 200 metre contour. The known cave passage is well developed and easy going in nature by comparison to other karst areas in the State. This in combination with the high rainfall and dense and rotten vegetation lends a certain New Guinea style atmosphere to caving here.

Because of P.B.'s relative inaccessibility, caving trips to the region have been few and far between. Choice of access is restricted to an expensive seaplane flight, three day bushwalk or possibly an epic sea canoe voyage. In 1960-61 a TCC party, including Albert Goede, touched down on New River Lagoon in a Tiger Moth sea plane. They set up camp on the shores of the lagoon, beside Damper Creek, and during their trip located, numbered and cursorily explored two impressive outflow caves, PB1 - Damper Cave and PB3 - Quetzalcoatl Conduit.

In 1973 an SCS party led by Kevin Kiernan arrived, partly by seaplane and partly on foot. The groups's intention was to explore and detail more of the karst, with a view to preventing a proposed limestone quarrying venture then threatening the area. They pushed Damper Cave and Quetzalcoatl Conduit, surveying approximately one kilometre of cave passage in each system. They also located a shaft on the slopes of the mountain, PB201 - Severance Cave, which was bottomed at -63 metres. These discoveries (as well as other features noted) established a good potential for future cave exploration here. However further trips were not immediately forthcoming, apart from a brief visit by Albert Goede and others in 1978.

History tends to repeat itself, but usually not before a certain amount of stuffing about occurs! Stefan attempted a solo reconnaissance of the area over May 1984. His dairy boots weren't made for walking however, and he ended up hobbling back without reaching his goal. Stef and I made plans for a fly in / walk out expedition over Christmas 1985, only to be dogged by more bad luck. The only seaplane available abruptly sank just prior to our day of departure! In the New Year another seaplane turned up in the State and once again we packed our gear for another try over an extended Easter break. Bad luck almost struck again....

We were due to leave on March 27, but that day saw a massive storm blow over the state, keeping us firmly on the ground. The telephone was alive with the sound of "pikers" doing their usual last minute routines, thusly our expedition party was rapidly reduced to two definites. The wimp brigade almost convinced me, to the extent that I started weighing up all the options myself, however fortunately sensibility prevailed. By dawn on Friday, all was perfectly still, in fact a perfect day. Stefan rang from somewhere, hinting at threats in asking "well?"...

An adapted Cessna seaplane and barefoot pilot awaited us on our arrival at Cockle Creek. Planes look funny tied up to beaches and this one had attracted an enthusiastic crowd to watch us load all manner of gear into the thing. It soon became apparent that two flights would be required - Stef, myself and the all

important cave impedimenta on the first flight, while the pilot promised to bring in our remaining baggage on a second run.

We bid farewell to the crowd, my car, and even people waving from dinghies as we taxied away from a rather festive atmosphere. The engine was revved up until we were planing then magically left the water altogether for the short hop westward to New River Lagoon. Flying over Precipitous Bluff we could make out depressions, limestone bluffs and other karst features, familiar to us from studying aerial photographs. I could also easily pick out the site of the Cavers' Camp from the air. However, once having landed on the lagoon, foreshore vegetation presented a monotonous uniformity from which it was difficult to tell where we actually wanted to go. Some relaxed motoring about revealed all! The campsite was made modestly conspicuous by those sorts of markers only South Coast bushwalkers are resourceful enough to contrive.

Seaplanes are obviously easier to land than the wheeled variety, but when stationary though they turn schizoid, reverting to a thoroughly cumbersome boat. We broke out the paddle for the last 20 or 30 metres to the beach, but ran aground before the first stroke could be applied, an easy thing to do in the deceptively dark waters. Awkward packs were wrestled ashore, from where Stef and I watched the plane rise skyward, remembering the pilot's promised return, for we didn't have a gramme of food in any of the bags piled around us!

It was pure joy sitting under the massif of P.B. Just getting there was a certain degree of success. Our first priority was erecting a "hut", constructed of builder's plastic sheet, to act as gear storage space and shelter in case of storms. As it turned out we enjoyed a week of glorious weather while actually caving, so shelter was scarcely required. Even so, our hut effected a true caving expedition style to our activities and was so comfortable I took up residence myself, along with an attendant cloud of mosquitoes. The open beach in front of our campsite provided some relief from these insects, as well as being a place to enjoy good food, sunsets and to plan the subsequent day's activities.

On Saturday we headed off to push PB3 - Quetzalcoatl Conduit. From the campsite we followed Damper Creek up to where a tributary stream enters it from the right hand side, then continued roughly south along this tributary watercourse to where it issues from the base of a ridge. This resurgence, designated PB2, is unenterable due to blockage by collapsed boulders, however a short climb over the ridge reveals the same stream entering the swallet PB2A on the other side. A quick inspection of this cave revealed some large, deep water passage beyond a short entrance crawl. The water drains away to resurge at PB2, perhaps only 50 metres away.

Immediately upstream of this point is Quetzalcoatl Conduit, an impressive and strongly draughting outflow cave. We quickly donned wet suits, as much to escape the mosquitoes as out of sheer enthusiasm to be caving. The initial passage was quite deep and was swum through some daunting low roofed stuff into a spectacular chamber where wading was possible. We floundered onto a point where the stream briefly re-emerges on the surface, hard up against a cliffline. A minor sidepassage here was pushed through a mud wallow heading into the hill for some 50 metres, until a predictable blockage. Re-entering the main streamway through a daylight hole, we climbed over the talus pile in Pendulum Palace, noticing the minor formation after which the place is named. Photographing our way through a large chamber on the other side, we went on into some low roofed swims, passing a couple of 10 to 15 metre high avens entering on the left hand (uphill) side. A collapse region, including a minor squeeze, was negotiated and the previous limit of exploration soon reached. Here, the 1973 party had halted at a very low roofed section. While there was still plenty of room in the passage for swimming, the wide flat roof lowers to within 10cm of the water. The stream apparently forks here, the right hand branch

is either a sump or a deep meander, we did not determine which. However, the left hand passage contains a positively howling draught and is the obvious way on.

Stef removed his helmet and pushed on through this marginally passible section with some difficulty, before encountering only slightly easier going on the other side. I followed, scarcely preventing my wildly flickering carbide light (and me) from outright drowning. We sort of meandered between roof scallops with acutely contorted necks straining to keep at least one breathing aperture out of the freezing water. Fortunately the roof height improved after a time.

More avens appeared on the left side of the streamway. They contained some wild looking sculpted flutings that would be particularly lacerating for the descending vertical caver. Snail shells on the floor hinted at surface entrances somewhere above. Further upstream, a brief section of inclined joint plane provided some easy slanted passage, before reverting to "roof sniff" swimming. The swimming continued for some distance until the next aven brought about a rest stop and a chance to escape the constant immersion. Stef was suffering badly from cold, his wet-suit having zips and no hood. He displayed admirable resilience however by somehow rolling cigarettes for both of us, even though thoroughly saturated and distinctly cold.

My somewhat warmer suit allowed me to push a bit further and so I swam on for perhaps another two or three hundred metres through more low roofed adventure, during which my carbide light took the final plunge. I emerged in a large chamber on my back-up electric, unable to restart the carbide - the matches were, I thought, back in a pack with Stefan. The large chamber was short lived and eventually continued on in much the same fashion as before. Here I suffered a chronic bout of caution, not fancying a return trip on dead electrics and flooded carbide. In retrospect, I would have dearly loved to push on, trying to connect with the known line of daylight holes (PB204, 205 and 206) that are possible accessways to the same system and perhaps within a kilometre of this point. However, from the safety point of view, I probably made the right decision in turning back.

Stef was also enjoying light problems with an intermittently functional electric and his carbide piezo starter was well and truly gummed up with roof scrapings. A search of our packs revealed we had forgotten to bring any matches at all! We had pushed the cave for an additional 600 metres (conservatively calculated) but were in no condition to attempt a survey. This was dictated as much by the nature of the cave passage as it was by our frozen state. We "hot" footed it to the nearest daylight hole, emerging into a beautiful warm day.

On the Sunday we traipsed the walking track, following and occasionally crossing the meanders of Damper Creek, up to Damper Cave itself. A nice sized outflow entrance, again with an impressive draught, the cave is located where a steep ridge abruptly levels out onto the shallow plain surrounding the lagoon. The walking track continues up this ridge to the PB summit, however we scrub-bashed northward from here, sticking more or less to the plain/slope juncture while surface trogging for possible outflow caves. We carried a minimum of gear and followed a NNW bearing in search of a series of interesting depressions on the aerial photographs.

The cliffline immediately beyond Damper Cave was marked by a single ancient tape, indicating a totally blocked entrance. One other old tape was sighted nearby on gentler ground, thereafter we were apparently in unexplored territory. We reached the feature we had been looking for, to find a series of impressive dolines within one large depression. Most were blocked up by sticky clay washed down from the mountain's dolerite capping. The lowest doline of the group was taking a small quantity of water into a jumble of breakdown blocks, but there was no draught emanating from anywhere to make us enthusiastic about getting filthy. The hoped for

outflow stream from this area did not exist.

The larger depression had sculpted a "neck" into the neighbouring ridge and we attempted to cross this to an apparently similar feature on the other side. Further north the scrub became particularly foul - small tea-tree stuff, filled out with thick cutting grass. This pushed us upslope, away from the second objective and into a scarcely better tangle of vegetation. We eventually got a bearing on the summit of PB, placing us a fair way north of the mountain. Slow progress and the lack of anything interesting sapped our enthusiasm so we turned back, scouring the slopes somewhat above our outward route.

Within a kilometre of returning to Damper Cave we found a distinctive steep limestone ridge, in the side of which we chanced upon two small shafts that were draughting strongly. Downslope from these holes (but still some 30 to 40 metres above plain level) was a connected horizontal entrance of a fossil outflow type. downclimbed the first hole assisted by several metres of handline, while Stef explored the principal entrance.

I landed in a large completely flat floored chamber and began strolling through some very well decorated and pleasant passage. Further on the decoration became fairly outstanding and before long it was completely bloody fantastic - bizarre columns, straws and flowstone, all thickly coated in pristine moonmilche, making for an eerie snowscape of utter white. Consequently we named the cave "Cueva Blanca". I halted in a daze that was quickly shattered by Stefan hurtling past mumbling "Kubla Khan.... Kubla Khan....". After that shock, I chased off in excited pursuit of the draught - this stunning cave must go somewhere. Eventually the sound of a sizeable stream could be heard and we followed a white flowstone ramp to a 20+ metre pitch, overlooking an active streamway below. We regained the surface and taped back to Damper Cave for a return trip on the following day. The surface trogging earlier on had had its ups and downs, but Cueva Blanca certainly made for an up!

Monday was fine though strong north-westerlies sent trees collapsing around us at camp, to the extent that we became totally paranoid about the forest canopy. We returned to the previous day's find prepared for any eventuality, complete with wet-suits as well as SRT gear. We spent a considerable time surveying, hindered by my photographic essays of the unique decoration, finally arriving at the undescended pitch. We anchored the rope around a column and it hung quite nicely, redirected by a small stalagmite on the edge of the drop. My 27 metre Beal proved just long enough, landing Stefan on a block above a large streamway we named "Inundation".

The streamway certainly wasn't a direct part of the Damper Cave system, as we had anticipated. Upstream was completely blocked, with most of the water apparently flowing down an unusual "hosing" waterfall. Stef climbed the rotten vertical rock under the full spate of water to gain the inlet passage - named "Black Curtains". This was very pleasant streamway in its own right, submerging us on occasions in not overly wide, but certainly very deep sculpted pools. We half swum to an upstream sump, unusual in Tasmania for passage of this size. Stef offered me first go at diving the thing! I felt around with my feet in the deep water, establishing that the headwall ran steeply and uninvitingly downward, beyond my reach. The whole sump was resonant under the blow from my boots, but there was not enough other evidence to entice that sort of bravery out of me! We surveyed back to Inundation.

The remaining downstream section proved to be fairly shortlived. The passage was largely deep canal, and I swum this to an almost dry inlet rift containing two possible leads, both of which squeezed off after an eight metre climb into the roof. Returning to the canal I swam back through a constriction taking a howling draught although its origin remained a mystery. The location of the headwall to the downstream sump was also a bit of a mystery - the water must have been draining

below the reach of my feet, somewhere off the right hand wall and it would be an interesting exploratory diving exercise. We returned to the base of the pitch.

Stef ascended halfway, to a point where he was able to pendulum across to a ledge giving access to another big lead. He rerigged the rope, to make a straighforward prusik for me up to the same ledge. We entered a large dry passage that was in effect a continuation of the entrance passage, but on the other side of the aven. "White Room" was a labyrinth of more amazing decoration and much photography ensued. The lead terminated above Inundation, clearly discernible some 20 metres below. Stef sussed out yet another lead while I was doing a trapeze act to regain the top of the pitch. He reported a twenty metre drop falling to a sedate but obviously sizable stream, suggesting Damper Cave itself. However we had no more rope to investigate this, so retreated to the quiet life of camp.

Tuesday and another perfect day. For a bit of variety we slogged up the summit track under a burden of rope in search of some vertical caves. The track follows the ridge for about half an hour beyond Damper Cave before levelling out at a notch which appears to be the extent of the good limestone at about 200m. Above this, a poor rock resembling calcareous siltstone carries on much higher and there certainly seems to be some collapse features within this material, but no going cave (PB202 and 203 as reported by the 1973 party).

Stef and I had noticed a linked series of depressions in the gully paralleling the ridge. These extend downward, beginning at the notch and are the most impressive features visible on the aerial photographs of the area. The gully was so steep sided we had to virtually downclimb the thing, facing into the slope. Various cave entrances were found on the right hand side of the first depression, but these were small and didn't extend very far. Stef went back up the hill to get his lamp while I battled an infestation of cave crickets in a grotty piece of minor passage. He returned gesticulating wildly about a huge wall he spotted off to our left.

Wrestling with fern covered logs through this grikey landscape struck me as being a particularly dangerous pastime. It was certainly very slow and it took ages to arrive at the object of Stef's excitement, a 40 to 50 metre vertical wall with a huge rift entrance running off out of sight. Stef glissaded the entrance slope while I pondered the possibilities of caves of this size still capable of being turned up out of the blue, like this. Stef returned with the almost amazing news that it didn't go, shades of Ida Bay, still it wasn't a bad start for the day.

We went further downhill through two blocked depressions to a difficult soggy downclimb into a third. A "tightrope" walk over some dubious logs stranded me on an outcrop overlooking a ten metre drop. Below was a pitch into some wide rift passage sloping downward and heading in a westerly direction. Another entrance nearby dropped into the same passage at a higher level with both entrances draughting nicely.

Perversity had caused us to leave the SRT gear back on the ridge, while the nervous nature of negotiating this horrific terrain bred a strong reluctance for either of us to volunteer to go up and get it. A successful way of dodging the issue was to shut up and keep looking. I climbed a steep grotty wall linking with the next doline to emerge on a slimy ramp. This I hung onto fairly securely, lapsing into shallow breathing and other symptoms of high anxiety, as I peered first at an entrance headwall of similar dimensions to "The Chairman", to then stare down a 60 metre shaft ("New Order") directly below me. Stef and I teetered over a ten metre chasm via another rotten log before escaping to more horizontal security.

The best was yet to come. We traversed the edge of the shaft where I attempted to get a better view of the bottom of the thing, without success. Stef meanwhile spied

a monster depression, hard up against the "New Order" doline, though it was difficult to get much of an impression of this because of the thick vegetation. From the better vantage point of the linking parapet, we peered down utterly steep sided and vegetated walls to a fern covered floor 40 metres below. The dimensions of the thing were probably 40 metres across by 60 metres long, a scale more appropriate to New Guinea or Mexico.

It took us half an hour to spiral down to the lower side of this depression. Here Stefan virtually fell through the last ten meters of dank vegetation to land in a sort of micro-jungle. The bottom of the depression consisted of two mini dolines, with nothing apparent in the first one. After scrambling over an arete into the second of these, Stef discovered a huge cave entrance (we named it Bauhaus) barrelling off down a mud slope into a large chamber something like 20 metres by 50 metres. This was illuminated by the 60 metre shaft of New Order directly above. Below the main chamber was a 30 metre drop with other major leads running off horizontally. Yet another borehole passage disappeared above, via another mudslope.

Meanwhile, in a classic case of being at the wrong place at the right time, I had bolted further on down the gully in search of more wonders, but typically there weren't any! On returning to the edge of the Bauhaus doline I waited for Stef to climb back up, swapping a cigarette for tales of "wonder cave". We taped back up to the top of the New Order shaft, then continued taping on up to the walking track. This was done more to help us get out of the cave probably late the following night, than it was to assist in relocation. We left virtually all our gear on the ridge for the following day. On a "high" from the day's discoveries we raced down the hill in a rare turn of speed.

Wednesday and we turned out fairly early for the hike back up the ridge. Surface surveying from New Order down to Bauhaus, we established the daylight hole as the upper entrance of the cave system, thus enhancing the depth of Bauhaus by 28 metres. Downclimbing vines into the first doline almost required prehensile feet and tail, for we were simultaneously hanging on and trying to survey. From the arete I glimpsed a previously unseen rift entrance leading from the first doline. Anywhere else it would be regarded as a sizeable piece of cave in its own right, however we ignored it entirely...

Bauhaus is an enormous hole in the wall of the uppermost doline. The entrance passage slopes steeply and enlarges greatly as it drops away into the mists. The chimney effect of the upper daylight hole creates a tremendous draught at the entrance, swaying the nearby vegetation in a most impressive manner. We rigged some 40 metres of old belay rope from a fern to expedite negotiation of the greasy mud slope, then surveyed and photographed our way to the big chamber below. Photographing a chamber of this scale isn't easy at any time, but with the added problem of mist was near impossible.

We stopped the survey near the pitch, peering up at New Order and generally coming to terms with the place. Rigging the pitch was obviously going to be technical, so we checked a major side passage hoping to find a simpler solution. This proved to be a good choice as a short piece of passage revealed a series of greasy climbs which bypassed the pitch altogether, leading down to a rubble strewn chamber. In this lower room I could still see daylight from the top of the shaft, 83 metres above. Meanwhile Stef ran off into two more borehole leads and I ended up in a muddy wallow that trended upwards - the wrong direction!

We met again, me covered in mud, listening to Stefan muttering ".... never seen anything like it". He was talking of the leads, one of which intersected a sizeable stream in 2 to 3 metre wide canyon. This amount of water was surprising

considering the fairly level passage and the very dry weather. The going was sheer delight with no boulders or false floors to hinder us from strolling down the thing, albeit carrying rather full packs.

The streamway went on for half a kilometre with a few side passages left unchecked. An initially chilling draught faded gradually as we passed various inlet avens, suggesting sizeable shafts above. The passage started to slope a bit more strongly until we were floundering about in swirlpools and short down-climbs, gradually becoming wetter and wishing we hadn't left the wet suits back in camp.

Finally a 4 metre waterfall dropped into some deep canal and there was no way of continuing without an all out swim. Foam on the water suggested a sump but we couldn't get into a position to see very far along the passage to verify this. A slightly unsatisfying finish to a great piece of cave.

My unprotected camera suffered a drowning in a two metre deep pool and plunging in to retrieve it chilled me for the three hour survey session back to the previous station. At least we weren't hindered by any more photography stops! Upstream from the point of intersection of the entrance series with this passage was not looked at. It possibly continues up the gully via the rift passage I had seen from holes above New Order, though this would be more east-west than the north-south line of the depressions. We dragged our largely unused gear back out of the doline, to arrive in camp just on dark.

On the Thursday we felt a bit burnt out and semi-retired, so opted for a tourist trip into Damper Cave. An aversion to checking anything resembling a lead meant we returned to camp fairly early. The afternoon was idled away with eating or in less palatable cases, burning all items surplus to our requirements in preparation for the walk out the following day. I must say that we left the campsite in better condition than it looked on our arrival.

On Friday we walked to Surprise Bay, a moderate day considering our heavy packs. Hail and rain on the Saturday sent us racing all the way out to Cockle Creek in a ten hour epic. This was only possible thanks to the excellent clearing work done on the South Coast track by National Parks and Wildlife Service.

Both Stefan and myself wish to express our sincerest gratitude to National Parks for their sanctioning of this expedition.

SURVEY RESULTS

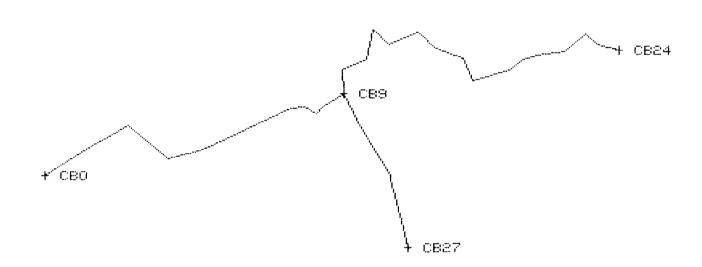
by Stefan Eberhard

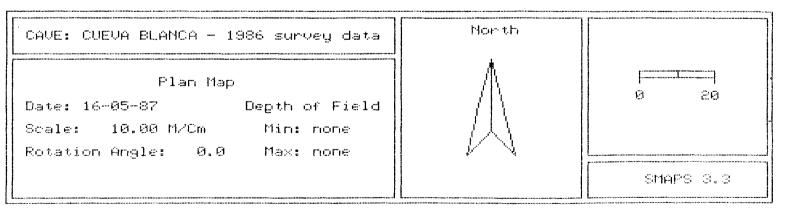
In 1973 surveys were undertaken in Damper Cave PB1, Quetzalcoatl Conduit PB3 and Severance Cave PB201. Approximately 1 km of passage was surveyed in both PB1 and PB3 whilst PB201 was surveyed, with varying degrees of accuracy, to a depth of 63 metres. The entrance of Reece Cave PB207 was sketched to CRG Grade 1.

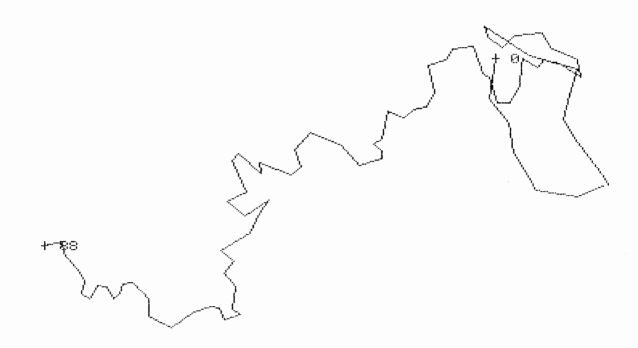
Maps of these are published in Kiernan (1975), Middleton & Montgomery (1973), and Pavey et al. (1973).

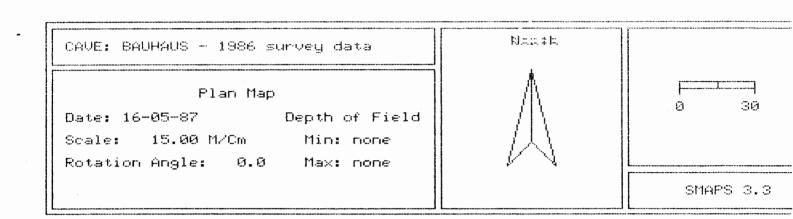
In 1986 surveying was conducted with a 30 metre fibreglass tape (read to nearest 0.1m), Suunto clinometer (read to nearest 1 degree) and Silva sighting compass (read to nearest 1 degree). The results presented overleaf are computer plotted line surveys. The surveys have not been drafted showing passage dimensions and detail since a considerable amount of exploration and survey work remains to be completed in both Cueva Blanca and Bauhaus. Cueva Blance has a presently surveyed length of 407 metres and a depth of 43 metres. In Bauhaus 600 metres of passage was surveyed to a downstream sump. Survey stations occurring in the vicinity of passage intersections were marked with flagging tape bearing the station number. These temporary markers will facilitate surveying of side passages on future expeditions. A surface survey linking the lower and upper entrances of Bauhaus established the total depth of the system at 115 metres.

It is evident that much survey work remains to be done. In addition to underground surveys, a major prerogative of future expeditions will be surface surveys, which will clarify the relationships between different systems and indicate likely connections. Notwithstanding, at this preliminary stage it seems probable that a hydrological connection exists between Damper Cave and Cueva Blanca and possibly even between the latter cave and Bauhaus. It is also tentatively suggested that Reece Cave PB207 represents the source of water, or part thereof, in Quetzalcoatl Conduit.









No.

Name

REVISED CAVE LIST

by Stefan Eberhard

The following list includes all documented caves for the Precipitous Bluff karst area, but excluding those minor features investigated by the Hydro Electric Commission during a search for caves of archaeological significance in 1983 (ref.: Forster, Cromer & Summons, 1983).

Some cave entrances have been physically tagged, either with paint (PBI and PB3) or aluminium plates bearing the identification number. Other caves, although not physically tagged, have had numbers assigned to them (indicated by an asterisk). The last six caves appearing in the list below were discovered in 1986.

Comments

NO.	<u>Name</u>	Comments
PB1	Damper Cave	Major outflow cave; c. lkm surveyed.
PB2		Subterranean meander cutoff; two entrances
PB3	Quetzalcoatl Conduit	Major outflow cave; c. 1km surveyed passage; 600m extension 1986.
PB201	Severance Cave	Pothole 63m deep; pitches 25m, 5m, 8m.
PB202*		Pothole 20m deep.
PB203*		Pothole 30m deep.
PB204		Unexplored.
PB205		Unexplored; south of PB204.
PB206		Unexplored; two entrances.
PB207	Reece Cave	Inflow cave; unexplored.
PB208		Shaft; unexplored.
PB209		Unexplored; north of PB1.
	entrance	In intermittent stream sink doline 900m N.W. of PB1; unexplored.
	entrance	30m high rift entrance in cliff N.E. of Bauhaus; narrow choked passage at bottom.
	entrance	Est. 15m deep shaft in gully uphill from Bauhaus.
	entrance	10m deep shaft; adjacent to New Order.
	Bauhaus	Major stream cave; 600m surveyed. Upper entrance 83m shaft (New Order).
	Cueva Blanca	Three entrances; 407m surveyed; spectacular speleothem development.

CAVERNICOLOUS FAUNA

by S.Eberhard

The first collections of invertebrate cave fauna from Precipitous Bluff were made in 1973. A significant discovery was a new species of troglobitic carabid beetle, Idacarabus longicollis, described by Moore (1978). Further collections from Damper Cave by Albert Goede in 1978 included 20 Idacarabus specimens, 3 spiders and 4 harvestmen assigned to the genus Monoxyomma.

The cavernicolous fauna was cursorily sampled during the 1986 expedition; the results and observations are presented below. Systematic knowledge of many Tasmanian invertebrate groups is very sparse and determinations to generic and specific level are frequently unavailable. Specimens were preserved in 70% ethanol and are presently held at the Zoology Department, University of Tasmania pending further examination.

Vertebrata

A single specimen of the Spotted Mountain Trout (Galaxis truttaceus) was observed in Quetzalcoatl Conduit (PB3) some 300m from the efflux entrance. This species is distributed throughout Tasmania and also occurs in Victoria and Western Australia (Last, Scott & Talbot, 1983). The pale colouration of this individual suggests that its occurrence in the cave is not accidental. G. truttaceus has been observed in Whitlam Cave on the lower Franklin River (Middleton, 1979) and also Exit Cave at Ida Bay (Mann, 1974).

Two bat skeletons were seen in an upper level extension off the "White Room" in Cueva Blanca.

Phylum Mollusca Class Gastropoda Hydrobiidae (?)

An unidentified species of aquatic snail was found adhering to smooth rock substrate in turbulent sections of the "Black Curtains" streamway in Cueva Blanca. The shell and body of the snails are white. The snails were abundant and 8 specimens were collected.

Phylum Arthropoda
Class Crustacea
Order Isopoda
Oniscoidea
(?) Styloniscus sp. nov.

A single depigmented specimen of terrestrial isopod was collected in Cueva Blanca. The cavernicolous oniscoid isopods at Precipitous Bluff are the only anophthalmic forms yet found in the State (Alison Green pers. comm.).

Order Amphipoda Crangonyctidae

An unidentified species of aquatic amphipod belonging to the Crangonyctidae was collected from a swirl pool in the "Black Curtains" streeamway of Cueva Blanca. The individual is anophthalmic and entirely without pigment.

Whilst amphipods are relatively common in Tasmania's active stream caves this is the first anophthalmic specimen I have encountered. The taxonomy of Tasmania's amphipod fauna is currently undergoing a much needed revision.

Class Diplopoda

A large population of millipedes inhabits the extensive riparian mudbanks in the initial 500m of PB3. Mating was observed. The 10 individuals collected exhibited a variable degree of depigmentation and preliminary examination suggests that there may be two species involved. The systematics of Tasmanian myriapods is very poorly known although they are a common component of the State's cave fauna.

Class Symphyla

Three symphylans were collected from a damp wall in a small passage opposite one of the side entrances to PB3. The two specimens taken from Cueva Blanca were located on damp walls and mud deposits in the lower streamway section "Inundation". Symphylans are usually edaphobitic, a factor which would presumably facilitate their existence in the hypogean environment. Tasmanian Symphyla remain completely unstudied.

Class Insecta rder Orthoptera Rhaphidophoridae Micropathus sp.

A single male cave cricket, <u>Micropathus</u> sp., was collected from the twilight zone in PB3. It is probably <u>Micropathus</u> tasmaniensis, first recorded from this region in 1973 (Middleton & Montgomery, 1973). This species is distributed throughout the south-eastern portion of the State (Richards, 1971). <u>Micropathus</u> is a common inhabitant of the caves at Precipitous Bluff.

Order Coleoptera
Carabidae
(?) Idacarabus longicollis

An undetermined species of carabid beetle was collected in the dry upper levels c. 100m from the entrance of Cueva Blanca. It is most likely <u>Idacarabus longicollis</u> (Moore, 1978). This species is of particular biogeographical interest, being restricted entirely to caves in the Precipitous Bluff karst region. Other troglobitic members of the genus occur at Ida Bay and Hastings.

Class Arachnida Order Opiliones Triaenonychidae Monoxyomma (?) cavaticum

One adult and one sub-adult triaenonychid harvestmen were collected from Cueva Blanca. The specimens have been assigned to Monoxyomma cavaticum, a group with troglodytic representatives at Ida Bay, Hastings, Scotts Peak, Cracroft, Nicholls Range and Mt Anne.

The taxonomy of this apparently troglobitic group is being revised by G. Hunt (Australian Museum).

Order Araneae Stiphidiidae Gen. nov.

One juvenile collected from PB3.

Theridiidae Icona sp. nov. 1

Two adult females and 1 juvenile were collected in PB3 and Cueva Blanca. Evidently troglobitic, depigmented and with anterior median eyes reduced.

Amaurobiidae Gen. nov. (milvina gp.)

One juvenile collected in PB3. A habitual cavernicole.

Thanks and acknowledgment are due to M. Gray (Australian Museum) for providing determinations on the spider material.

Conclusions

The large, active cave systems at Precipitous Bluff contain a diverse cavernicolous fauna. Some elements of the biota are of particular systematic, evolutionary, biospeleological and zoogeographical interest. Biological collections to date have been of a very preliminary nature; no systematic collection programme has been undertaken in the caves of this region. Knowledge of the aquatic fauna is especially sparse. Further collecting is likely to reveal the existence of new species and substantially increase the known levels of diversity, in addition to providing information on the distribution, habitat requirements and ecological status of taxa. The potential for further research is considerable.

SUMMARY

The extensive cave systems at Precipitous Bluff are of major scientific and recreational significance. As sporting exercises they rank among the finest in Tasmania.

In 5 days 1800m of new cave passage was explored, 1165m of which was surveyed to a high degree of accuracy. Two major new caves, Cueva Blanca and Bauhaus were partially explored. The speleothems in Cueva Blanca are of exceptional quality.

The number of known cave entrances for this karst area was increased from 12 to 20 and new information was obtained on the hypogean fauna.

Although the Ordovician carbonates reach an elevation of c. 400m in this region (Burrett et al., 1981), speleogenesis is largely restricted to the lower 200m of surface relief. The limestone outcrop occurring between Cueva Blanca and Elusive Bluff appears to be the most promising area for cave development.

There is considerable scope for further speleological investigations.

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