

Almost: a tale of two cave dives

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MURRAY CAVE TO RIVER CAVE

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

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

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

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

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

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

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



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

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

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

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

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

Murray's second sump hole would be

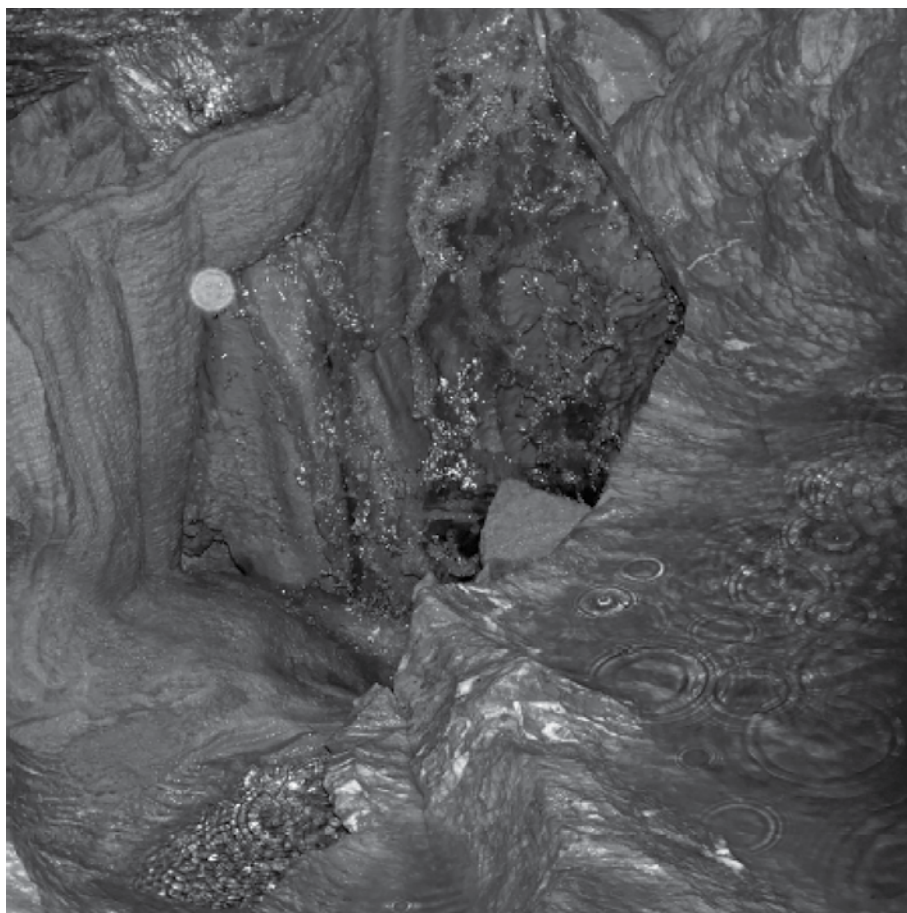
where we would like to succeed with a push because the watercourse from here to the River resurgence is unknown. There should be lots more cave along that water course.

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

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

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

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



Waterfall above Downstream Sump

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

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

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

spaces between the rocks. Alas, no reply.

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

MEANWHILE ...

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

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

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

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

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

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

TUGLOW CAVE: THAT DOWNSTREAM SUMP

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

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

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

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

ALMOST: A TALE OF TWO CAVE DIVES

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

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

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

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

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

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

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

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

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



Rod O'Brien returning from dive

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

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

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

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

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

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

Maybe the diving will find the other end.

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

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

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

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

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

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