

Thursday 7 July, Baralong: The Missing Link

Keir Vaughan-Taylor

Barralong yields slowly its suspected caves and passages associated with the underground river in the Southern Jenolan Limestone. Surprising finds motivate us in expectation of more. Over many SUSS trips we have revisited many of the less visited passages at the furthest areas resurveying and methodically composing maps and understanding of this cave's intriguing structure.

To me, at this time, the cave has two main areas of interest. The first is the small stream found near the start of the cave just on the other side the first rock pile. The Bluetongue lake is a spa sized pool fed by a small stream emerging at the base of an aven, a cylindrical tube rising 6m to abandoned river passages above. Bluetongue lake was dived a long time ago by Ron Allum and later more successfully by Rod O'Brien. He scooped the loose underwater alluvial stream gravels to one side of the lowest point of a phreatic loop sump and pushed his way down and then up again, surfacing in a canyon passage. His efforts completely changed the downstream flow to chocolate brown. He could not find a way on in the canyon passage but it must be there. No-one has been back since and this is a very interesting place yet to be explored.

This canyon passage will eventually lead to the next known appearance of the Southern River in Mud Tunnels which we call River Lethe. Downstream from there has been mapped all the way out to the resurgence in Blue Lake

Then next point of interest, in my view, is at the far back of the cave, the furthest point accessible to above water cavers. Here is the source of the Southern River feeding into the bottom of a Barralong's lake and flowing through a low passage out of the lake chamber. It then pours, kettle like, into a low stream passage heading North, back towards the main tourist caves and back towards Bluetongue. It is accessed by an awkward climb down a sharply bladed wall into a stream. Mostly made awkward wearing wet suits and carrying dive kit. Perhaps explorers of the past were not enthusiastic about this direction because the river was heading back into known cave areas and the great mystery lies to the South and all the hints of cave systems in the Southern Limestone.

Over the years of pushing to the South our repeated attempts to push further encouraged our trips to become much more organised. This is not really a characteristic for which I am famous. Gear packaging was found to be efficient at moving gear, protecting the formations and protecting our equipment.

Smaller scuba tanks, a better negotiation of the underwater realm, and knowledge of where we were trying to go, led to mapping and extending the cave considerably to the South. The cave section above water passes through many decorated passages and considerable effort went into protecting the floor and nagging people to be careful.

After many dives to the back, the SUSS teams became quicker, retaining energy to do exploration and mapping after reaching the back of Barralong. The divers would fade in the blue water for a few hours while the survey teams went exploring and measuring more passages. They would correct and add to existing map surveys. There is still more work to be done but the journey to the dive site is a long one to repeat over and over again.

In reviewing the dive South, recall that the dive begins in the back most lake descending through a hole in the bottom of a lake. The onward passage makes its path through a number of jointed rifts passing under a slot at the end of a tunnel accessible to any wet and bedraggled caver after climbing a muddy cliff on the far side after swimming across the Barralong Lake.

The zig zagging through keyhole tubes are negotiated by turning from one side to the other, and sliding our side mounted tanks through each obstacle. Mostly the keyhole shaped tunnels are at about 4m depth occasionally surfacing in small air bells. The shallow passages descend suddenly to 15m, still in rifts, one of which rises to the surface through a tight vertical rift. The surface presents as a small lake and a stream entering into the lake from a crawling tunnel off to one side. While not very warm the crawl along the stream tunnel is obstructed by sharp blades of limestone. In full neoprene, and dangling dive tackle, this onerous crawl regenerates a feeling of warmth but not love for sharp limestone.

There are two or three short sumps with adjoining air spaces. I intend, in future, to make sure that none of these rooms have leads. I'm sure I have checked them but we are always focussed on the far point of exploration that now I am unsure how well we have searched here. From one of these rooms there is a final tight and short underwater rift that slips into a 1m wide rift with a surface. The room has vertical walls providing no rest place out of the water. This rift pool is 6m deep where at the bottom a rounded tunnel with an emerging water flow is blocked for divers at its floor by sand. Moving sand floor out of the way is possible but there are limited places to put the excavation material. A flood might one day do the excavation for us. I find you get more wishes granted if you wish for things that are likely.

This rift may lead to a river significant in the formation of karst features under the Southern Limestone such as Bottomless Pit, Block Cave, Heffalump Trap and the many dolines and collapses seen in the Southern Limestone. The dive to this place is not easy and time to spend at this place is limited by the cold and also limited by a support team, and also limited by the consideration of not keeping the support team waiting for too many hours.

Back to the warmth of the Cavers' Cottage the post-examination conversation mixed with wine, port and a good meal tells us there is something there, we just need to go back again.

Phil's maps, (perhaps I should say our maps) show the underwater section to be located below the surface, about where the snout of a mountainside descends to the valley floor, near a small karst feature known as Hobbit's Hole. Facing up the valley, the underground river's position stops short of showing if the underground waterway dives under the mountain on the left or crosses the valleys under Block Cave. We have yet to find if the river is perhaps related to the spectacular Bottomless Pit on the right side of the valley. Contrary to its name Bottomless Pit has a bottom. On occasion I have stood next to the huge fallen boulder on the bottom chamber and you can hear and feel a breeze emanating out of the rocky floor suggesting a huge cavernous presence, something else, that you just can't get to.

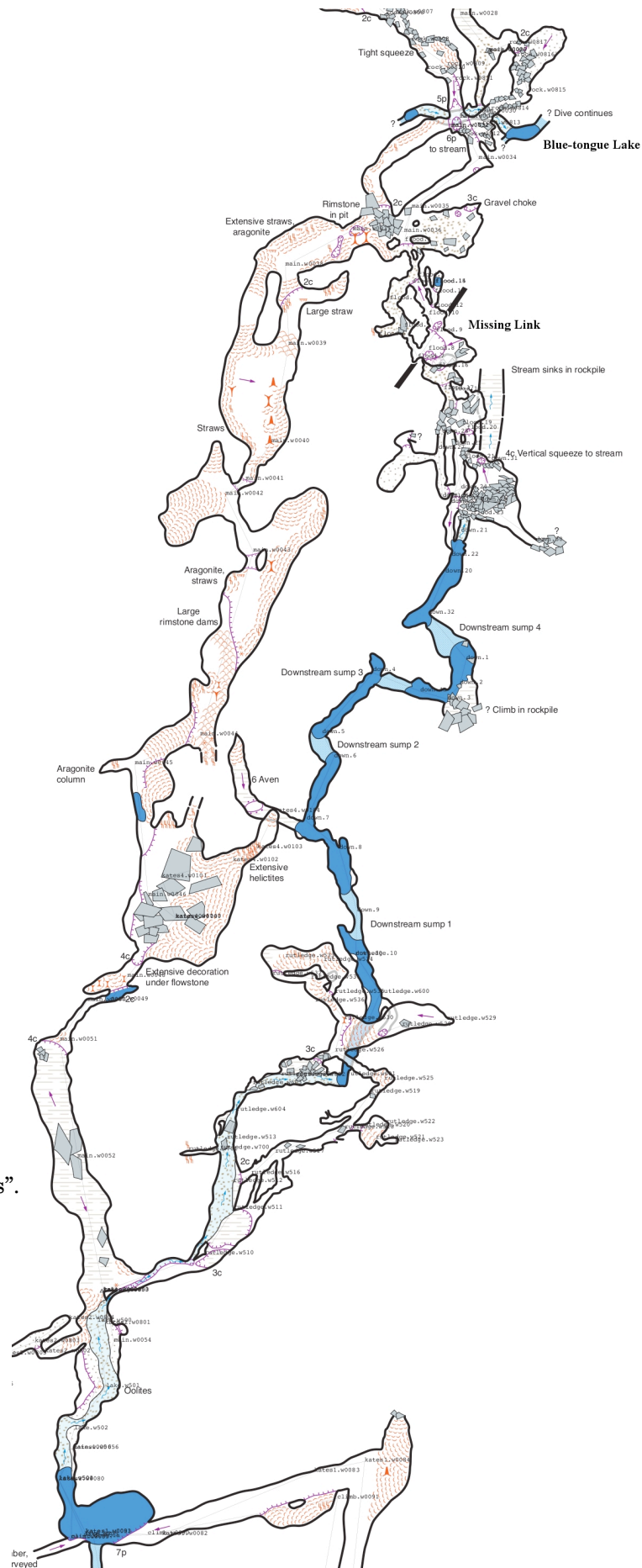
On one dive trip to Barralong Lake instead of pushing South I instead investigated the river going the other way, North, back towards the tourist caves.¹ I had been told in the past that the stream flowed into an impenetrable rock pile. On the contrary, there is a short sump followed by wade along stream passage and then another sump followed by more canyon stream walk and another sump. The canyon apparently ends at a steep slope of jagged rocks at the edge of the water. A chamber some distance up the tumble of rock meets the roof however a room beyond can be seen and is obviously unstable. To this day, no-one has mustered the bravado to explore the room at the top of the slope but perhaps, with care and judicious rock moving, it could be safely negotiated.

Michael Collins found a way on further, squeezing between rocks near the surface. After another few meters the passage opened to a set of small chambers full of collapsed rock pile and loosely connected with eroded key-hole shaped channels. After several exploration trips Michael and I spent a number of trips with scaling poles and climbing gear to scale an extremely muddy aven that finally yielded an uninspiring room with a small amount of decoration. Oh well!

So some progress. "... though much is taken, much abides".

Phil, Kat, myself and others decided to do investigative trips to Bluetongue. We explored during a flood in the hope that we might find signs of a flowing river somewhere in the rock piles. We climbed the 6m Bluetongue pitch and made our way into the room prior to where Barralong assumes its decoration for which it is so revered.

In the flooded state we could hear water in a number of places inside the rocks. So tantalising because the sound of the water seems to move as you move with the rockpile. Slots and grikes in the wall were, in this flood, hosting perched stream ways. Normally dry, there was in this flood, a canyon to wade and swim along. It forked one way ending in a blind passage. The other ways came to a



¹Editors note: for the full map of Barralong see Bull 47(3):13-17

two meter drop, water falling from the perched streamway into a small lake room.

Within the lake of this room, part of the river was welling up on one side, swirling away and down into another hole. We move a few rocks blocking the holes and tried putting my water proof camera into the inflow and outflow holes to capture an image of what lay beyond.



Kat in the flood. Photo by Keir Vaughan-Taylor

The pictures were poor but showed there was quite a bit of room in both holes and it looked like we should come back with a pair of three litre scuba tanks to have a look under the surface. Information from the photographs was to prove unnecessary and so was the proposed dive. I had imagined the upstream and downstream holes as being the missing link between the dive upstream back this way. It was to transpire both holes were not possible to dive however it did turn out to be the missing link.

At a later date a survey team went to the Missing Link to survey the significant places in the perched streamways where we were now sure the river lay close by. With the flood receded the stream was gone. The perched streams were dry and the holes where water welled up from below were also dry and now, with obstacle rocks moved aside, there was passage beyond. The survey team followed the dry passage and found that upstream, heading towards the diving push caverns, that there was a connection. In all those diving trips no-one had noticed the insignificant hole in the floor where this lead connected in.

Having missed the survey trip I later returned with a mini-team just to have a look and see if there were more leads. The route to the diving chambers is a crawl over fragmented rock. It is a tight squeeze in places but not hellishly so. There is a chance of other passages inside the rock pile but nothing easily presents itself. Does it ever? Crawling through these small chambers the Southern river can be seen trickling across river gravels through a lower, very small, passage underneath. The visible flow doesn't seem to represent the entire flow. We know that part of the flow passes underneath the Bluetongue Pitch and into Bluetongue Pool; even so there may be more.

The river is unknown between Bluetongue Pool and where it next appears in the Mud Tunnels, some distance prior to the tourist favourite, the Pool of Reflections. Downstream from the Missing Link the river should connect into Bluetongue lake although I doubt it will bypass the phreatic loop that Rod dug his way through. No doubt the previous survey group checked it out, nevertheless I wanted to inspect what I could. Struggling a little into the hole I was able to squeeze downstream. For a short way a small stream trickles across stream gravels underneath the crawl tunnel - not the main flow by any means but very interesting.

At a most awkward tight spot I could see, not far ahead, the streamlet filtering between stones packed in a rock pile. In high water conditions the water would back up from this point and create the lake conditions that we had previously seen. It wouldn't take much to move the filter stone aside but would take a smaller person than me with much better knee pads and in a much more determined mood.

It remains to be seen if this new route can change the time and effort for diving the Southern Baralong Waters. This

might be a far more environmental route to the back of Barralong and may dramatically reduce the time to get there. This potential route is low, confined and with sharp rocks lining the route. I really need much more industrial strength knee pads. There are sections for lying down crawling and grunting through sharp rock and a low roof.

After the crawl section continuing on to the very back there are multiple sumps, a stream gravel crawl and an irritating climb at the end up to the lake chamber.

On the positive side there is no formation to worry about, no cliffs to pass gear up and down and the possible impact to decorations in the cave is eliminated. As an air saving safety measure the short sumps joining each of the river canyons might be best passed using small pony bottles and changed to seven litre bottles at the Barralong Lake.

Saturday July 9, Mammoth

Rowena Larkins

Participants: Ian Cooper, Keir Vaughan-Taylor, Will Slee, Tim Abbott, Emma McIntosh, Ashton East, Gary Pate, Nat Brennan, Deborah Johnstone, Tom Short

We arose at various times, from 8am through 10, our sleep having been interrupted by the blissful sound of an alarm at 5am that someone had forgotten to disable. All would have been well had the owner not pressed the snooze button rather than the off button. No-one claimed responsibility the next day.

The long term members proceeded to Baconfest with first time members salivating at the smell of cooking cholesterol, making mournful comments about their plain cereals.

When all the bacon was all consumed the discussion turned to the days activities. As usual there were as many plans for the day as there were people. In the end it was decided that there would be two trips, with the cave weary, such as Keir (who had been caving since midweek) taking a pleasant stroll through the southern limestone in search of J288/289 who's entrances we had photos from the 1980s. The rest of the party would go for a mammoth mammoth journey.

Keir, Deb, Tom, Ian and Nat headed south while Rowena took Will, Ashton, Emma, Tim and Gary north and downhill.

As the mammoth party crossed the dry creek near the Playing Fields a couple of lyrebirds danced into view. After a brief pause to let the dance progress we crossed the creekbed and interrupted three 'roos busy at breakfast. The marsupials hopped up the hill to join three more friends before bounding out of sight.

No further animals were spotted on the short trip to mammoth and after wrestling with the lock at the cave entrance (which someone had closed upside down) the journey underground commenced. Down the jughandle and into the horseshoe chamber via the bypass; A check for worms in horseshoe indicated they were hibernating; Time for a photoshoot up horseshoe aven and then we paused to view the pioneers inscription and the Skull and Cross Bones.

We re-grouped, crossed the Sugar Cubes and headed down to the lower levels.

Next stop was Central Lake which was significantly lower than when I was last there (in summer it was full up to the permanent rope) but today we could still see Central River flowing into it. We progressed through the Middle Bit and I stunned myself by finding my way through the rockpiles without error. At last we came upon the Dry Siphon, which, as usual, was not dry. We crawled through and found ourselves to be "not dry". I had tentative plans to stop for lunch at the junction, but decided against it and headed up towards north passage. We needed to ensure people stayed warm and were not affected by the dampness from the siphon. We wandered up "The Bypass" past the turnoff to "Ohmenez Squeeze" and paused to admire and photo the spectacular small pools and waterfalls now that central river was flowing.

Back to "The Junction" and up "Northwest Passage" where the decorations provided several photo opportunities. We paused just before Guzova and there Ashton found an ancient glass bottle. We collected the pieces and cleaned up the label which seemed to say something about "welcome chemical company". Having warmed up from the not-so-dry siphon we went back to "The Junction" for lunch.

Knowing that the best way to learn how to get through a cave was to lead, I encouraged the rest of the team to lead the way, one by one, back through "Middle Bit" to Central Lake. I was intrigued to see one of the team exit a low passage which led into a large chamber, decide the best way forward was through a tight squeeze and crawl under a rock pile at the base of said chamber. I stepped across the chamber and waited for the group as they exited the crawl.

Back at "Central Lake" I took over the leading and we headed up the permanent rope and back to Railway Tunnel via "Debouchment". Again I asked the team to suggest the way out. Being totally disoriented the team's consensus was to head further into the cave towards the back of Railway Tunnel; mistakes are a learning experience and I pointed them in the opposite direction. We were out by about 4:30 and Will led the charge back to the shower and the cabin.