JF36 Growling Swallet:
The Niggly Connection Project Phase 1

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Since this article was written nearly three years ago the 'Niggly Connection Project' has been ongoing and other significant new finds have been achieved. Hopefully another article will bring us all up to speed in the not-too-distant future – Ed.

BACKGROUND:

JF36 Growling Swallet is a particularly extensive and significant cave in the Junee-Florentine area of Tasmania and has been known since the time of early European settlement.

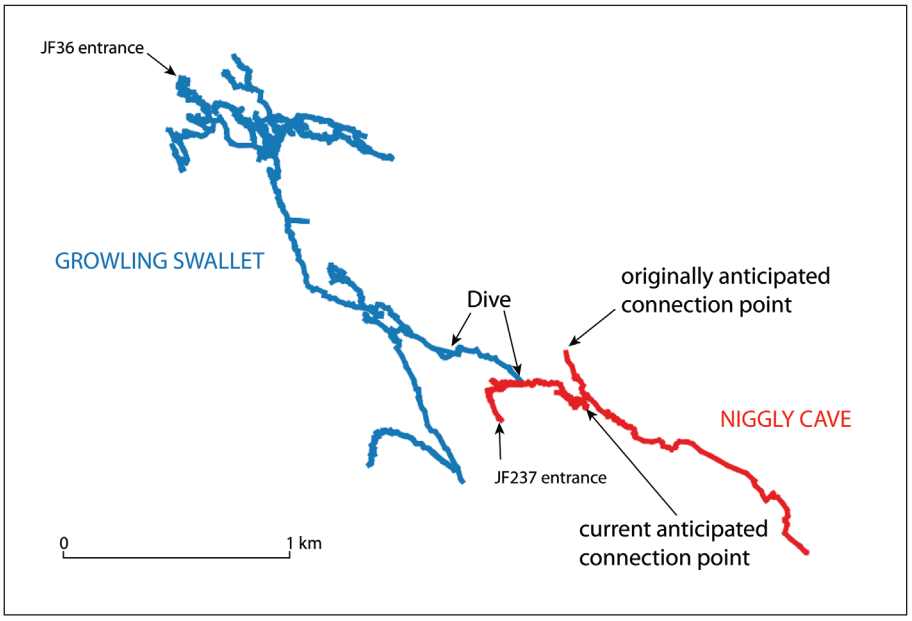
The cave has a very impressive opening in the form of a slot in a cliff, with a significant creek flowing into it in summer, and by all accounts a practically unimaginable torrent of water in winter. The water has been dye traced to emerge from JF8 Junee Cave, approx. 8 km away as the crow flies, and Growling Swallet is generally considered to be one of the major feeders to this system.

With over 11 km of surveyed passages, many of which are of 'master cave' proportions, and at present four entrances, the Growling Swallet system is big, and complicated. Being a streamway cave with lots of water, there are inevitably passages which terminate in sumps.

Additionally, only about 500 m separated it from the nearby Niggly Cave, which apart from having Australia's longest free-hanging pitch (a ball-breaking 190 m) is a big system in itself. Also a probably more likely (and exciting) prospect is making a connection to the Porcupine Pot/Tassy Pot/Owl Pot master cave system which is kind of in the middle. There is big potential for discovery of gigantic 'classic master cave' streamway passages, like those in Niggly, which ends (both upstream and downstream) in gigantic rockpiles.

THE PROJECT

Obviously, connecting these systems would be a significant achievement, and the Dreamtime Sump in Growling Swallet has the best prospects for doing this underwater. It had been dived before in the 1980s without much success in the good direction, but Andreas Klocker (the fiercely anti-mainlander Tasmanian resident of 12 months) thought with the passage of time, improving of equipment and (at least as Sandy put it) 'balls so big, they had to be put on my chest' there was a decent chance someone could get further.



The relationship between Growling and Niggly as at 2015

Thus Andreas got together what I am going to call the Niggly Connection Project. Over the course of four trips through the summer of 2014-15, with what we are going to call Phase 1 complete: we have successfully extended Growling Swallet by an extra 500 m, most of this being underwater. It is now only 200 m from the likely connection point in Niggly, although this is anticipated to be in rockfall so it may be difficult to achieve.

THE TRIP TO DREAMTIME SUMP

After a reconnaissance trip to Dreamtime Sump by Andreas earlier in the year, December 2014 saw grand caving wizard Alan Jackson with sorcerer's apprentice Dan Haley spiriting a pair of 7L tanks wrapped in the wetsuit of Andreas Klocker to the top of Avons Aven under the guise of a 'beginner trip'. And with only a small amount of convincing by Andreas, this set the scene for the first dive trip which took place on Saturday 13 December, along with the arrival of Liz Rogers, Dave Bardi, Sandy Varin and me (Stephen Fordyce) as the mainland <insert suitably derogatory comment here> Sherpa and moral dive support contingent.

As usual, Andreas did a stellar job of preparations and picking us up from the airport — I was on an earlier flight and as I was the alternate diver, we double checked the gear and packed my drysuit, brought along with much weight-related creativity on crummy Tiger Airlines. Wearing your kneepads under jeans makes for a good place to hang all sorts of heavy caving gear that will otherwise make your carry-on luggage too heavy. My only regret is that the only people I had on hand to share the experience with were the unamused Tiger Airways staff.

Anyway, we got to the cave on Saturday morning and were underground about 10 am. It was a hot day and we were glad to get out of the sun, until after 15 minutes of climbing down wet rocks in 8°C Tassie cave

Alan outside the cave in the lovely forest and sunshine, wondering whether he could hang tanks off his kneepad straps under his trogsuit.

air, and that was a distant memory for the next 12 hours. The cave is obviously a very active streamway that sees a lot of water, so it is not much decorated in most places, but it is still pretty in a shiny-black-rock-with-mud-on-it kind of way. There were some bypasses we took, some careful edging around the outside of pools and crawling along ledges, so that most of us had dry feet and relatively dry undersuits by the time we reached the turnoff from the water, and crawled up into a small dirty passage past gigantic mudbanks with flood debris 5 m higher than current river levels. A comforting thought ...

There followed some interesting obstacles, starting with the windy rift, having a draught so strong that teeth were quickly chattering, while bodies and bags were wedged in awkward positions. The fun continued with some more improbable squeezes, and several sphincter-clenching ladders, both up and down, which have been in the cave possibly since before Alan got rid of his trendy mullet. Oh and also Herpes III – a lovely little squeeze in ankle-deep mud that smells nasty and you have to wallow in it to get through. Sadness levels increased proportionally with sock wetness levels. As Andreas pointed out, rich people pay a lot of money to get mud like that smeared all over them, so we should consider ourselves lucky. Perhaps we should bring some out and leave it in Andreas' shower next time.

The complicated breakdown passage through Necrosis and Bronchial was bigger but we had to pay attention to find the way through as it was very complicated and despite the heroic attempts by the survey and mapping teams of yesteryear, the map was about as helpful as Sandy's offer to lend Alan her spare trogsuit.

Having collected the tanks and wetsuit at the top of Avons Aven they made for a much heavier load and we contemplated bringing in bigger tanks to slow Alan down and stop him complaining about the mainlander pace as we negotiated the rockpiles.

Finally we heard the sounds of the stream, and we reached the 'running passage', which Andreas had insisted was so big and smooth we could jog down it. Sadly, the visions of a concrete walkway complete with handrail quickly evaporated, but we did make good time over the cobblestones. A minor muddy detour up and over 'Bloody Smokers' to avoid dunking ourselves in the stream and after a final slippery climb-and-slide we were at the Dreamtime Sump, with strict but largely futile instructions not to muddy the water flowing into it.

The trip out is like most trips out of caves. Did I mention it's ~200 m of vertical to climb (no SRT but still the sketchy ladders) and seems to see us getting out well after dark every trip.

How many cavers does it take to eventually put a diver into a sump five hours away from the cave entrance? Answer: it depends whether they are mainlanders and whether you like getting out before midnight.

DIVING TRIPS:

Dive Trip 1 – 13 December 2014

The first dive trip was limited to a pair of 7L steel tanks — pretty standard kit for seeing if it goes, but giving you a decent bit of gas if it does. With Andreas ambivalent about transitioning to his wetsuit and back again, I was to have first go in my drysuit, so with the 1980s map in my head, I stuck to the right-hand wall and went in.

After wriggling through rather a lot of uninspiring, wide but very low flat passage things started to open up and I was able to swim, dropping to 3.5 m water depth before coming up into an air chamber, complete with small beach, room to stand up and another sump.

The sharp left turn in the sump came as a surprise as I swam into the wall in the low vis, but opened up into the 'She Goes Tunnel', a comfortable 4 m wide x 1 m high running in very shallow depths only just below the water table. I quickly exhausted the 150 m of guideline and had to return with an empty reel but relatively full tanks to report that 'She Goes'. I should mention that as there was 180 bar left in Andreas' tanks, he was unanimously outvoted on the subject of whether they should be left in the cave for the next trip.

With no more guideline available to be laid, Andreas was understandably not keen to go for a pleasure dive, but there followed an impressive motivational effort where instead of making a beeline for the exit, we made a scenic detour into the Dreamtime passage, with nice high ceilings and wide walk-along floors.

Dive Trip 2 – 7 February 2015

Unfortunately there were some equipment malfunctions early in Andreas' dive, so no further progress was made – such is life sometimes. David, Sandy and Alan returned, joined by Michael (Pax) Packer and Petr Smejkal as gear haulers, which was greatly appreciated.

Dive Trip 3 - 21 February 2015:

With an earlier start and making good time through the cave (with the help of 'new' recruits Ken Murrey and Dave Taberner and selected repeat offenders — Alan, Pax, Sandy, David, Andreas and myself), we were a well oiled machine moving at slightly more than one-third optimum Alan Jackson speed.

This trip was a great success, with a further 350 m of guideline added through

Chillin' at Camp Comfort, where the team waited for about two hours. Despite the smiles, chillin' was a compulsory activity.

the course of a 2 hr dive, and the full 500 m surveyed on the way out, revealing that the cave was only 200 m from Niggly. It was agreed that this would conclude diving for the summer and we would pull out all the tanks, while leaving the weights and guideline in situ and hoping they survived the winter.

DIVING DETAILS

This concentrates on diving trip 3, in February 2015. By this point, the gear requirements and configurations were pretty well sorted, to make sure we would have the opportunity to get maximum return (new cave!) for the effort we would put in to get everything there. I was to be the diver, and the equipment for the dive was selected as follows:

- 2x 9L carbon fibre tanks with 6 kg of weight strapped to each
- 1x 7L steel tank – clipped 'over the top' of the carbon fibre tank on my left
- Drysuit with 7 mm hood, Fourth Element 'Arctic' undergarment plus polypro thermals, and a thick synthetic jumper
- 4.5 kg of weight on a weightbelt
- ~10 yellow silt pegs
- Three reels with a total of ~500 m of line — there was no way I was going to run out again.

The gas plan was to dive in breathing only the 7L steel until it was basically empty (15 bar), then dive out breathing only one of the carbon fibre tanks unless it got too low to make an exit on if the full tank failed for some reason, coming out with two largely empty tanks, and one full tank which could be left in the cave for next time, while still maintaining enough reserve gas to safely exit the cave in the event of any piece of equipment failing.

The Nomad LTZ Harness/Wing about to begin what is probably going to be a hard, miserable and relatively short life, but with much excitement.

NARRATIVE OF THE FINAL DIVE

Arriving at the sump, there was the usual dance of trying to get changed from filthy wet trogsuit into dry undersuit and drysuit, without getting too much mud on the zip — all this on a small mud/sandbank with about 1.4 m vertical space.) With plenty of willing hands to make the process quicker, I was promptly geared up and face down in the mud, wriggling out into water deep enough to float in.

It wasn't too much of a drama getting through the first long and flat restriction with the third tank; in fact, having it unclipped was a pain and it was much easier leaving it clipped for the way back. I made good time and popped up into the small chamber at the end of sump 1, crawled across the couple of muddy metres and continued into sump 2. The line was pleasantly still in the same condition — excellent — that I'd left it in and it didn't need much tidying up.

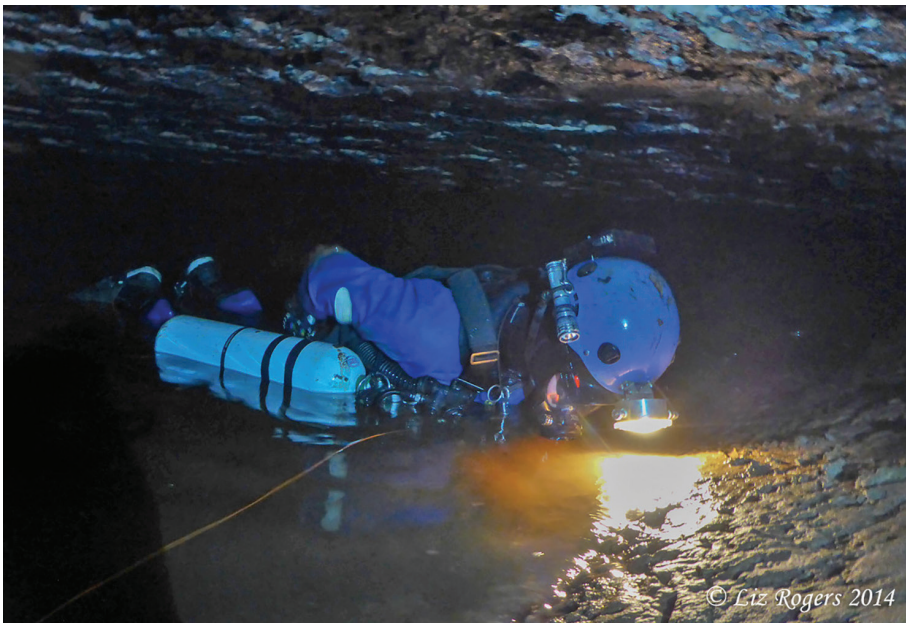
Visibility seemed to be a slight improvement on last time at ~3-4 m, and pretty soon the reel was unspooling into new cave after noting gas pressures, with the nice 'She Goes Tunnel' continuing straight ahead. The profile was square, with a flat silty floor and weak rock or mud chunks on the walls that preferred to fall off rather than be tied off to.

Siltpegs were used occasionally, but the straight tunnel allowed a good long distance between them. At regular points there were shallow air pockets on the ceiling, one big enough to stick my head up into.

The tunnel constricted ahead and I wondered if it would be a terminal rockpile, as there were rounded rocks about 10-30 cm in diameter piled at the bottom of a slope in 3.5 m water depth.

But no, although it was low and sloping up, I could happily fit through and after having some difficulty jamming a siltpeg in at the start of the slope, I followed the sloping restriction upwards. The gentle current had started to push some silt ahead of me, but I was relieved when the ceiling disappeared and I broke surface into a nicely sized chamber. Actually, it was really pretty big, being about 30 m long, 4 m high and 3 m wide.

Coming out of the water, I found that the cave took a 90-degree turn to the right in a high passage with a shallow lake and a beach. I took a moment to sunbathe, catch my breath and also make a solid couple of tie-offs and tie on an arrow pointing towards home. It was interesting to note the same little white cave bugs *(Anaspides*



This sort of diving is quite glamorous, especially if you enjoy lying face down in mud.

shrimp) in the water, similar to the ones at the start of the Dreamtime Sump.

Checking my gas, I still had heaps left for penetration, and if the cave kept on at this depth it was going to be one seriously epic long dive and I would probably run out of line again.

But the cave had other ideas: after wading the 30 m long '30 m Long Lake' lake and sumping again, it dropped straight to 12 m. Ok, that was fine, I still had plenty of gas for that... but over the next 200 m and tying in the third reel the passage continued to slope down in regular steps with low sections, but nothing too bad before it bottomed out at 26 m.

Getting towards turn pressure, at 25 m depth and with only 9L tanks and by this point a good hour away from the support crew, there were definitely some mind games going on. I reckon being on edge at times like these is a very useful survival mechanism. Confidence in your planning also helps.

Having a bit of penetration gas remaining, a conservative plan and an airspace not too far back, I pushed on and the cave came up.

Up a series of steep slopes with some tight flat bits, with a few clumps of silt rolling down, until the cave turned into more of a rift passage in 5 m water depth. It was showing all the signs of surfacing again, perhaps into the fabled gigantic master cave, and with not much penetration gas left I followed the ceiling, eventually reaching a tantalising 1 m water depth but with no cigar and no surface, either. The rift passage looked high as I couldn't see the bottom, and it didn't seem to be going all the way to airspace, although it was certainly going on ahead.With turn pressure reached and my 7L steel tank now basically empty, I reluctantly wound in 10 m or so of line to find a final tie-off point, having well and truly used all the siltpegs.

With the reel clipped off and wetnotes out it felt good to be heading home, even though it was a cold, long way which all had to be surveyed — what so-called responsible explorers do. This helped to keep me focused and the gentle current made for a nice swim back in relatively good visibility compared to most sump exits due to the percolation of silt off the ceiling from exhaust bubbles. It turns out I had added 350 m of new line and surveyed 500 m in that dive — a pretty good effort. Mind you, considering the 85 person-hours of in-cave time contributed by the team, perhaps this is debatable.

As usual, I was told unceremoniously to hurry up and get changed so we could get out of there.

This may seem unfair to the non-caver, but the reality is that I was dry, warmish and doing exciting stuff, while the others had been sitting in the mud in damp muddy clothes in a cave with an ambient temperature of 8°C for the best part of an hour and a half with only the occasional hot drink or a Dave and Sandy domestic argument for entertainment. The idea of cooking up some of the abundant aquatic cave fauna was also floated (pun intended) but discarded.

EPILOGUE

Before the considered pfaffing which is a prerequisite to getting packed up and moving again, we had a quick council of war and decided to bring all the tanks out — this was sad, but it was felt that for the effort involved to go much further, the next push would need a different approach and that wouldn't be happening before winter. However, we left all the weights (no belts or rigging) tied to a protrusion on the wall back from the sump in the larger passage. Hopefully they would survive the winter floods.

Alan plotted the survey data next day and the sump has surprised us; rather than heading to upstream Niggly and the projected master cave beyond the terminal upstream Niggly rockpile, it is heading for the downstream section and only 200 m away right where there is a record of a stream entering through rockpile.

With key personnel unavailable, an attempt at making the connection is going to have to wait until next summer, and plans of attack are under discussion: stay posted for the next instalment.

THANKS AND ACKNOWLEDGEMENTS

The usual thanks go to Andreas for generally organising pretty much everything, Liz for taking photos even when no-one else was motivated, Alan for mapping and generally being a JF guru and everyone who carried gear or did setup trips. This sort of thing is not done so someone can have a fun dive — it's to carry out meaningful exploration and bring back data with purpose. I'm glad that we as a team could achieve this.

Being the push diver is a great privilege, but the whole thing is so much a team effort that the efforts of the push divers are tiny in comparison to the efforts of the rest of the team that makes it all possible. Thus, thanks need to go to all team members who made the underwater extension of the cave possible:

Andreas Klocker
Stephen Fordyce
David Bardi
Sandy Varin
Alan Jackson
Liz Rogers
Dan Haley
Michael 'Pax' Packer
Petr Smejkal
Ken Murrey
David Taberner