

ARIO CAVES PROJECT EXPEDITION TO TORCA DEL REGALLON (C4)

22nd June – 16th July 2017

Expedition members: Mike Bottomley (co-leader), Steph Dwyer (co-leader), Phil Baker, Dave Ottewell, Helen Blyth, Martin Hoff, Richard Gregson, Sara Gregson, Paul Diffley, Sarah Holman, Duncan Simey, Ben Hudson, Tony Seddon, Rich Hudson, Eoghan Mullen, Steve McNamara, Claire Dunphy, Jock Read, Adam Walmsley, Mark Sims, Reuben Harding, Keith Mason, Axel Hack, Aileen Brown, Fleur Loveridge, Jo Whistler, Marcus Evans, Stu Weston

Summary

With just over 3 weeks in the field, the expedition was successful in the following:

- Establishing an 8-10 man camp in the Sanctuary chamber, from where various passages were pushed. The huge aven entering the chamber was climbed for around 75m, but two inlets remain to be entered. The first of these is located several metres above the highest point reached by the bolt climb. The second is a significant waterfall, which will require a traverse to reach it, most likely from a point 40-50m up the main bolt climb.
- The small waterfall at the end of the previously named 'F64 inlet' was climbed to gain a narrow streamway which quickly became too narrow for further progress, although it is worth another look to see if there's a way on at higher level. Not too far up the 'F64 inlet' a very small aven was noted during the 2016 explorations (which becomes a waterfall during wet conditions), which was climbed to gain a short section of clean-washed streamway to an estimated 30m high aven. This was climbed for around 25m, and is still going with a large black space beckoning from above.
- A route was found into 'Tinkle Tankle Passage' from the Sanctuary chamber which bypassed the tight rift that was the previous limit of the 2016 explorations. Tinkle Tankle continued as an involved section of draughting passage through rifts and chambers to a waterfall. This passage is heading north into blank space and is still ongoing.
- Further progress at the downstream sump (*Special Agent Sea*), where Tony Seddon was successful in passing the sump after a 150m dive, briefly reaching 30m depth. A short wander downstream soon confirmed that this was upstream 2/7 following the discovery of 'Dunlop' boot prints (these being a popular choice with OUCC cavers in the past) and a survey note left by Hilary Greaves and Lynn Cooper in August 2000. Tony returned to upstream 2/7 the next day to investigate for high level dry passages which may lead to a dry sump bypass, but nothing of particular significance was found during the short 2hr trip.
- The bolt climb started close to the downstream sump during the 2016 expedition, where the presence of a phreatic tunnel in the roof and increase of the draught warranted further investigation, was continued for around 15-20m but the interesting holes and rifts above proved to just be alcoves and blind rifts. However, the aven continues above. The draught appears to head up a boulder ramp close to the start of the traverse, which leads up into a boulder-filled chamber. From here, a climb up a massive flowstone wall leads to a window overlooking a massive chamber, with the sump chamber visible down to the right, some 50-60m lower down. A huge aven and inlet could be seen entering ahead, which looks to take the draught, and may possibly be the lower end of 27/9 or some other pothole entering from above. A couple of trips were made down 27/9 to assess potential for capping the draughting, too-tight rift at the bottom.

In summary, this was a very successful expedition, with significant advances made both upstream towards some of the highest feeders to the Verdelluenga-2/7-Culiembro system, and downstream where C4 was connected to 2/7, forging one of the major connections in the Ario Dreams' quest for Europe's Deepest Cave. With several ongoing passages, much work remains to be done in upstream C4. In addition, a film was completed by Paul Diffley (Hot Aches Productions), which was shown at Kendal Mountain Festival and very well received, winning the Peoples' Choice Award.

Background (updated following 2017 expedition)

The Ario Caves Project is a continuation of 50 years of Oxford University Cave Club's exploration in the Massif Occidental of the Picos de Europa, and whose primary aim is to facilitate and further the exploration of caves associated with the Vega de Ario and the hydrology of Cueva Culiembro. The goal is ultimately of yielding a super deep system in excess of 1,800 m. This would be the deepest in Europe and one of the deeper caves of the world. The scientific justification for this super deep system comes from the culmination of many years of exploration, surveying, geological studies, shaft bashing, careful GPS documentation and dye tracing. This work has uncovered many systems which, in their own right, range in depth from several hundred metres to > 1,000 m (namely C3-C4, 2/7, Xitu and Culiembro). Connecting these up is now a very real possibility, with the Verdelluenga (C3-C4) system heading upstream into 'blank space' and the downstream end separated from upstream 2/7 by a relatively short sump. Finding a dry way around this sump would allow much easier access to the 2/7 system than via the tight and arduous 2/7 entrance series. Downstream 2/7 currently ends at an enormous boulder choke – *Choke Egbert* – beyond which the main streamway appears from survey data to drop rapidly in depth over a short distance to the furthest explored point, the base of a large waterfall, in Cueva Culiembro. The focus of the 2015-2017 expeditions was Torca del Regallon (C4), which was first explored in 1996 and 1997 and which drops into a major streamway – *Underground Overdrive*, now connected to the upstream continuation of the master cave found in 2/7. Upstream C4 has split into a number of passages, chambers and avens, many of which are ongoing and should allow a connection with F64 as well as other potholes feeding into the upstream end of the system.

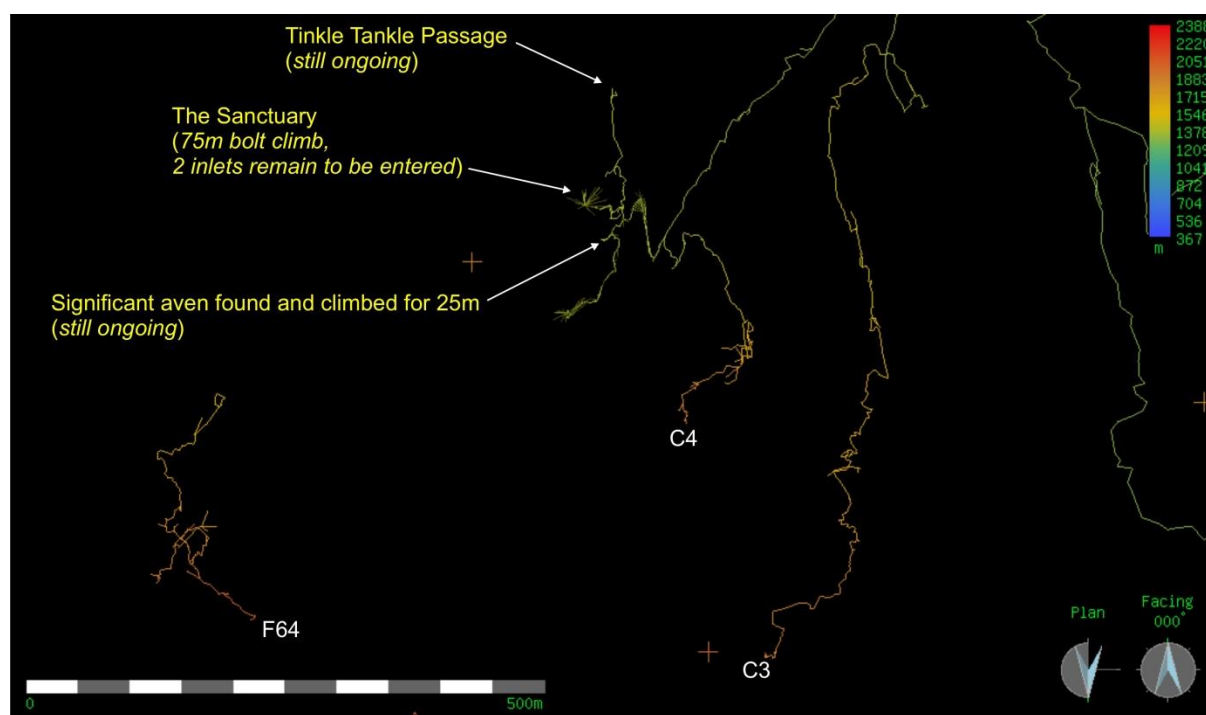


Plate 1 –Survey and summary of the upstream extensions in *Underground Hyperdrive* – joined on to the main OUCC survey of the Verdelluenga – 2/7 system (drawn and compiled by D Simey, 2017).

Upstream C4

A summary for the upstream explorations can be seen in Plate 1, which shows the survey data as it stands following the 2017 expedition. Tinkle Tankle passage can be seen heading north into blank space, following the observed trend of the main 2/7 system which seems to zig-zag its way up the mountain. The big aven in the Sanctuary chamber was climbed for around 75m, although two inlet passages remain to be entered. One of these is located several metres above the current limit of the bolt climb and should be easy to gain. The other will require a bolt traverse to reach from a point roughly 40-50m up the main bolt climb, but issues a very substantial waterfall in times of wet weather, as was experienced during the middle part of this years expedition. Finally, a small aven located part way up the previously named 'F64 inlet' was climbed to gain a short section of clean-washed streamway ending at an impressive 30m+ aven, which was climbed for around 25m and is still ongoing. Much work remains to be done in upstream C4, with one of these leads hopefully heading for F64 and a connection with a surface pothole located above 2,000m alt.

Diving Special Agent Sea & the connection

On Sunday 2nd July 2017, Tony Seddon surfaced in upstream 2/7 after a dive of around 150m length, briefly dipping to 30m depth. Confirmation that the passage Tony had surfaced in was 2/7 was quickly gained through the discovery of 'Dunlop' boot prints and a survey note left by expedition members during the 2000 expedition to 2/7. A second dive was carried out on the 3rd July to check for high-level passages which might provide a dry sump bypass, but nothing overly promising was found. The combined C4-2/7 system is now approximately 905m deep.

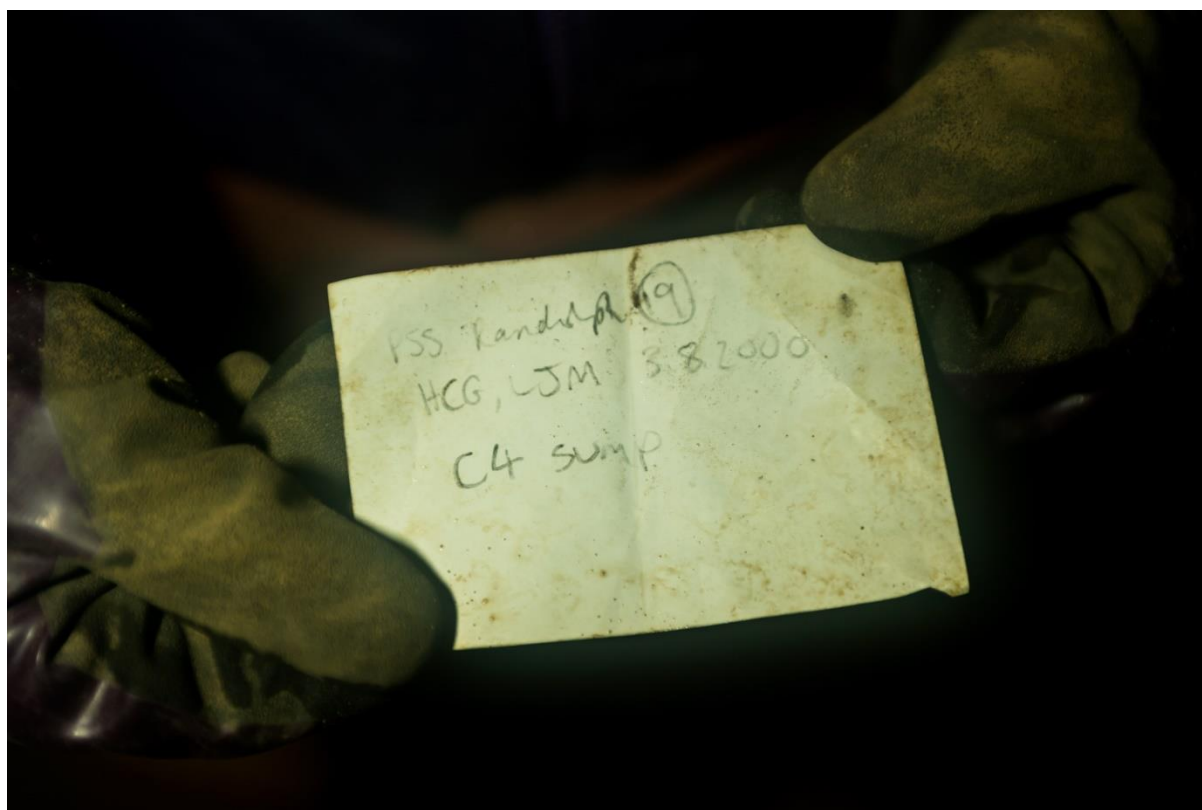


Plate 2 – The survey note found in upstream 2/7 during Tony Seddon's dive, left by Hilary Greaves and Lynn Cooper during the 2000 expedition to 2/7 (Photo: Paul Diffley)