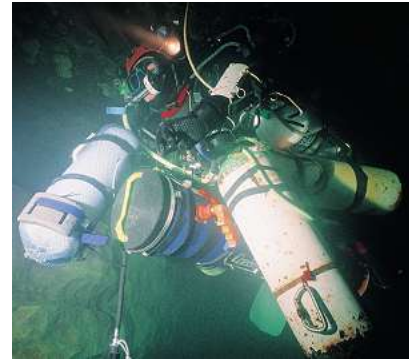


Cave Diving British Style....

the LAST adventure



British divers Ric Stanton and Jason Mallinson have become leading lights in the dark art of cave-diving, after achieving a penetration of France's Emergence du Ressel previously believed impossible. Martyn Farr spent an anxious time as a support diver on the expedition

Gliding through the balmy waters of southern France, holidaymaking canoeists occasionally glimpse unusual activity in the murky river just upstream of the sleepy little town of Marcilhac-sur-Cete. Leading down from its bed is an alien world of darkness, miles of flooded cave tunnel touching depths of 80m or more.

The Dordogne is a popular destination for cave and technical divers. Some of the longest and deepest dives in the world have been undertaken here and some of these projects are still quietly progressing. For more than 30 years the Ressel has tested leading European cave-divers. The outstanding German pioneer Jochen Hasenmayer reached a point 1750m from base in 1981, though it was left to the Swiss diver Olivier Isler to make the first "breakthrough" when, in 1990, he ascended from 80m depth in the final shaft to reach air at 1950m.

Ahead, a steep, boulder-strewn slope led away into darkness - an open, dry cave just waiting to be explored.

Isler's audacious advance was made possible through the support of a large team of highly experienced divers and the new RI2000 semi-closed rebreather. From the reports at the time it seemed clear that rebreather technology would be essential if divers were to safely negotiate the best part of 2km of deep waterway to reach the unexplored cave.

And other than the RI2000 and Hasenmayer's Speleo Twin - both "one-off" sets of apparatus - that technology was simply not available in 1990.

Ric Stanton was a driven man. In the '90s he took exploration to a new level, frequently completing the work of others and regularly fine-tuning his kit to permit ever-longer penetrations.

By 1997 he had devised a configuration that allowed him to carry six or more 20 litre cylinders and, in minutes, to be able to exchange four of these deep under water. He became the first person effectively to use the flexible British system of side-mounting to complement the traditional back-mounting technique used in all previous multi-bottle rigs.

The Ressel presented the ideal site to test the configuration, with its lure of original exploration. Teamed up with the equally determined Jason Mallinson, Stanton's adventure began in March 1998. Far from home and at depths of 50m-plus, one plans thoroughly and exercises considerable care when trying out new techniques, but the experience can be unnerving. On one occasion a scooter propeller fell off at 700m and later, on the same trip, the scooter batteries failed at 750m, requiring the cylinders to be temporarily abandoned. Another time, the pair took a wrong turning about 1200m into the system and consumed vital reserves of gas on a circular loop.

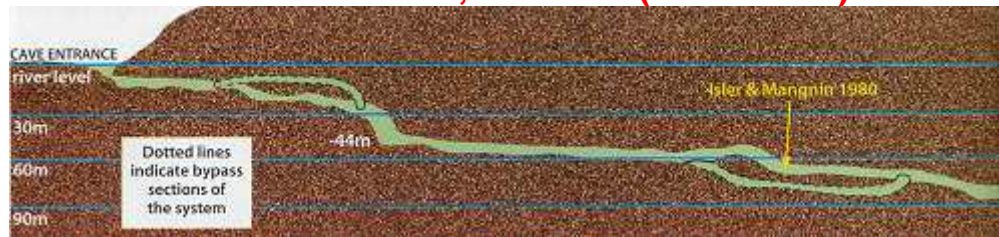
However, as they said, they had gone to France with nothing to lose and everything to gain, and returned far from daunted, thinking: "We can do this!" Their kit configuration was sound and they had proved themselves mentally equal to the task.

The lads were on a shoestring budget but, using borrowed, begged and secondhand purchases, they renewed their assault in mid-May. When further problems arose, threatening their schedules, they regarded them as part of a learning curve.

Operating out of the same campsite over the same period were German divers Reinhard Buchaly and Sandro Nadeo. Buchaly had also set his sights on the Ressel, slowly advancing his experience of the system and the particular requirements of lengthy penetrations.

The Germans had all the equipment they needed, the best that money could buy. As they became aware that the Brits were not only gearing up to pass the sump, but appeared to be about to set out on the final leg, something of a race developed.

EMERGENCE DU RESSEL, FRANCE (1st section)



EMERGENCE DU RESSEL, FRANCE (2nd section)



On 23 May Buchaly (with a Halcyon semi-closed rebreather) and his partner (on open-circuit) finally scootered all the way through the sump and into the cavern reached by Isler eight years previously. Nadeo dekitted and scaled the boulder slope, but the effort that this took had unforeseen consequences. With a high concentration of CO₂ in the chamber, he soon had difficulty breathing. Seeing what appeared to be a complete blockage in the distance, and feeling stressed, he hastily descended back to the water and the security of a safe breathing supply.

On their exit the Germans announced that the end of the cave had been reached; they had won the race and, it seemed, concluded one of the last great mysteries of the region. However, Stanton and Mallinson were already geared up for their attempt to pass the sump, so they decided to check it out for themselves. Three days after the German success they set out, diving some five minutes apart. Tanks were exchanged at 350m, 650m (where they swapped onto previously staged scooters), 900m and 1300m.

Unknown to Stanton, out in front, Mallinson ran into difficulty just beyond 1600m. The stress of acute buoyancy problems resulted in severe breathing difficulty. A mile from home, he had just risen from 81m and had the prospect of three more hours under water before he could surface on the "wrong" side of the sump.

Overcoming the stress and bringing his breathing back under control, Mallinson took the prudent course. Three hours after entry, he arrived back in home waters to start on a further six hours of cold, lonely decompression.

Meanwhile, Stanton was calmly wandering through dry passage. He passed the tumble of rocks observed by Nadeo and eventually reached a very inviting second sump. He had experienced high concentrations of carbon dioxide before, and knew that if he stayed relaxed there need be no ill-effects.

In August, the pair successfully passed the first sump together. Sump 2 proved to be 400m long and shallow, Sump 3 was 20m followed by a 400m swim, Sump 4 was 230m and the pair finally ran out of line at a fifth sump! They had explored more than 1150m of new cave, extending the furthest point in the system to about 3km from the entrance.

A year later, in August 1999, the two faced one of the most ambitious explorations ever tackled. For months the weather had conspired against them. Visibility was no better than 4m and even at finning speed it was difficult to see the walls, let alone the thread-like line. This was hardly the fabulous clearwater site of repute, and anyone trying to scooter off line and at speed in such conditions would raise eyebrows. Yet speed was essential for the open-circuit approach.

This three-week expedition was operating right on the edge. Just before Stanton and I arrived, Mallinson had started installing emergency cylinders deep into the sump and, in a momentary loss of concentration, had crashed his modified Aquazepp.

He had ripped the control trigger handle free of the shell casing and a sharp rock projection had torn his drysuit, gashing his lower arm.

But Mallinson is made of "the right stuff". He calmly recovered the situation, installed the bottles and, using the second trigger on the Zepp, limped back to the upturned trade wheelie-bin, the team's improvised decompression habitat.

Back on the campsite a couple of hours later, Mallinson's trusty mate Rich Hudson sewed up the wound and Mallinson started to repair his scooter.

The aim of this trip was to push forward from Sump 5. The pair needed to camp for at least a night in a dry chamber beyond Sump 1 and, given the volume of gear to be transported, the schedule was tight. Even if everything went to plan, there would be time for only one push.

Still on a restricted budget, with limited supplies of helium and much equipment borrowed from friends, the prospect of postponement, failure or worse was never that remote.

A seemingly endless pile of bottles left the campsite and were deposited ever further into the cave. After ten days everything was set, but not without further cost.

On one mission the motor on Stanton's Predator burnt out and the scooter had to be retired. Then the habitat sprang a leak, and the communication system was rendered inoperable. Most disturbing, the visibility had not improved and the weather was unsettled.

It had been agreed that Reinhard Buchaly would accompany the British pair. Not only was he infinitely better equipped, with state-of-the-art Gavin scooters, Halcyon rebreather, and so on, but he was in a position to loan Stanton a scooter when his died!

Late on the morning of 25 August, the trio set off. With wetsuits and other items strapped to their backpacks, there was concern about buoyancy and trim; it was an anxious departure. For us on vigil, a 36-hour mission seemed a reasonable timescale.

Stanton led, followed by Reinhard and lastly Mallinson on the fastest machine. Sweeping through the murky corridors, extreme concentration was required. It was not until the upward decompression at 33m that Stanton was able to think about the others. As the minutes ticked away, concern for Mallinson's welfare began to mount. It was a massive relief when they heard his Zepp in the distance. The group changed into their wetsuits beyond Sump 1 and started to haul equipment forward to the next dive. This took far longer than envisaged and it was 9.30 that evening when they reached their designated campsite beyond Sump 2.

Few words had been spoken through the afternoon but it was tacitly agreed that the day was over - they needed to eat and sleep before the final push.

Lying on the hard, lumpy floor, it was time to reflect. Mountaineers know what might lie ahead of them, but this cave could surface and face the divers with a dry cave network which could run for miles, confront them with another deep dive, in which case they would be severely limited by their gas mixtures, or continue at relatively shallow depth.

Above ground, thunder rumbled around the valley and, for a while during the night, it rained. One massive downpour and the visibility could be destroyed altogether - fortunately it never came. But there was little comfort next morning as those underground struggled into cold, damp wetsuits, kitted up and proceeded to the end of the cave on automatic pilot. Having heaved their equipment over the dry boulder pile prior to Sump 5, it was a massive relief just to have got there. Some 24 hours after entry and a year after the last visit, they had finally returned. The moment of truth was at hand. It took a 90 minute dive before all three divers were reunited. The relief came not so much from reaching their goal as escaping from the cold water. The main tunnel had been explored for 570m, and another couple of hundred metres located in a promising side lead. Ahead the tunnel continued at just 9m. Clearly the cave was not about to end.

They had given all that could be expected; for 45 minutes they sat and shivered, preparing for the long haul out. The rest of the day passed in toil; by the time they regained camp, weary bodies and minds were again grateful for sleep.

Early next morning, with gas supplies still well above thirds, one final flurry of exploration commenced. Another new 240m section of tunnel was quickly lined. It yielded an underwater bypass to the dry cavern with the high concentration of CO₂.

For the anxious watchers, 10.45am on 27 August came none too soon. A minute or so after the high-pitched whine of Jason Mallinson's Aquazepp became audible, the glaring lights emerged from the gloom. He was safe, though he still had more than three hours of decompression to complete. Unaided, he shed his four side mounts and, with a deft roll, was out of his cumbersome backpack and into the wheelie-bin.

Reinhard Buchaly would by now be decompressing in his altogether more hi-tech habitat some 300m deeper inside the cave. It was another 20 minutes before Stanton appeared; the interval had been

planned to give Mallinson time and space in which to manoeuvre and dekit. Soon the floor was strewn with abandoned equipment. With both divers safely crammed inside their plastic airbell, a dive slate was passed in to them.

"All OK. 1km of new passage, all under water," came the reply.

The team had pulled off one of the most outstanding feats in the history of cave diving. After 49 hours in the cave, they surfaced to warm sunshine and a champagne reception. All that remained was days of diving to recover the gear from the cave - and to start planning the next assault in 2000.

WHAT EACH DIVER TOOK

- **50 litres O2 at entrance habitat.**
- **10 litres nitrox 40 per cent from entrance to 350m**
- **15 litres air from 350-900m**
- **15 litres air at 750m (emergency)**
- **2 x 20 litres trimix from 900m to far deco point and back**
- **2 x 20 litres trimix on backpack**
- **12 litres trimix staged at 1350m (emergency)**
- **2 x 15 litres nitrox 40 per cent deco gas at far side of Sump 1**
- **20 litres nitrox 80 per cent deco gas at far side of Sump 1**
- **2 litres argon (suit inflation)**
- **2 long-duration light units**
- **Dry tube containing camping equipment, stove, food, batteries, etc**
- **Spare scooter taken to 900m**