

THAI CAVE DIVING

SONG HONG EXPEDITION

THAILAND NOVEMBER 2007



: MATHEW PARTRIDGE

Deep caving in Thailand has been a popular activity for over a decade by tourists participating in jungle safaris and trekking, with some of the most spectacular caves in the world nestled in limestone cliffs. Around 60 million years ago the Indian plate collided with the Eurasian plate causing devastating effects across Asia, forming large mountain ranges similar to the Himalayas. At this time limestone karsts were pushed through the grassy plain to heights soaring well over 100 metres. Later, as the Pacific Ocean began to rise, water began to fill this grassy basin which is now known as the Andaman Sea. Evidence of these cataclysmic events are still evident today – chains of limestone karsts and islands such as the Phi Phi Archipelago span the coastal areas of Thailand.

Over the millennia the rain, together with underground fresh water springs, have carved caverns and caves above and below the sea's surface all over the country. As most of these caves were formed before the rise in sea levels, many are decorated in fantastically shaped stalactites and flow rock. Cave diving in Thailand is pretty much a recent affair with only a few divers possessing the local knowledge, skill and logistics to explore these amazing systems.

One particular cave had eluded us for several years: Song Hong Cave, meaning 'two rooms' in Thai language. We'd been searching local sources to try and locate the system without joy until October 2007 when on a scouting trip I and Dr Michael Gadd successfully located and dived the cave. We both made relatively simple checkout dives to gain an orientation and

establish the site's general conditions. Mike descended to 105 metres outside the entrance using his Ouroboros Rebreather and I journeyed inside the cave to a maximum depth of 74 metres using an ISC Megalodon Rebreather. The conditions in the shallows are pretty poor but once below 12 metres the visibility cleared to around 5-10 metres and this continued all the way to the bottom. Water temperature was a tropical 26 degrees. Having only travelled with enough gas and logistics for the one dive, we'd have to return to the site with a full support team and logistics to explore more.

The next month was spent preparing for our November expedition. Extensive logistics in Asia is always a challenge. Mike and I joined up with friend and fellow deep diver Ben Reymenants who would provide a team of medical support from the SSS Chamber network where he works; Ben would join us for the deep dives on the next visit.

November
The expedition was planned for the 13th to the 17th November. I spent the first few days back on the island of Phuket at the Pro-tech facility blending the 11 decompression tanks we would be staging for bailout in the cave and preparing all the logistics and equipment that were needed for a big push dive of this nature. The team then assembled in Krabi, the closest resort to the dive site, a little over two hours away. It was necessary to spend the first day at the dive site setting up our decompression habitat and staging the shallow decompression tanks for the team's push dives early the next morning. On arriving at the

+ FOR MANY YEARS NOW THAILAND HAS BEEN KNOWN WORLDWIDE AS A HAVEN FOR SCUBA DIVERS, WITH ITS WARM TROPICAL WATERS AND MULTITUDE OF DIVE SITES ON BOTH THE EAST AND WEST COASTS. THOUSANDS OF DIVERS HIT THESE WATERS EACH YEAR IN SEARCH OF WHALE SHARKS AND MANTA RAY ENCOUNTERS, USUALLY WITH GREAT SUCCESS. OVER THE LAST FEW YEARS TECHNICAL DIVING IN ASIA HAS GROWN, WITH MANY SITES BEING FOUND AND EXPLORED AROUND THE REGION. THAILAND HAS A STRONG FOOTHOLD ON THIS MAP.

Left: Mathew Partridge deep inside Song Hong
Right: A lot of tanks are needed for the teams decompression





Top to bottom: Ben in the habitat that will be used for the decompression stops; Dr Mike Gadd at the waters edge of Song Hong Sink; Matt decompressing after the dive

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dive site several locals arrived. Within minutes of us unloading our pickups over a dozen Thai's had gathered to see what was going on. They must have thought the aliens had landed as we unpacked our rebreathers, scooters, decompression habitat and trucks full of dive gear!

Installation of the decompression habit was our first challenge as the rain was hitting us hard and the access area to the lake's edge was muddy and slippery. Our original idea was to suspend it at 12 metres, but as there was no suitable position for this, we had to install it on the ledge directly outside the cave at 16 metres which would mean adjusting the mixes in our large supply tanks to bring the Po2 to something safe to breathe. It proved a challenge for our support divers, as the rock face dropping from the water edge was littered with extremely sharp rock that could have easily damaged the habitat and put an end to our trip on day one. Once installed, the shallow stage tanks, descent line and buoy were fixed to provide a continuous line with bail gas directly to the surface. Deep divers Mike, Ben and I were now able to make checkout dives and double check that the habitat was usable for the following day. We arrived back that evening to discuss our dive schedules and blend the final gases for our dives, finishing a little past midnight.

An early morning start for the team, a quick breakfast and it was off to the cave. Only five minutes outside Krabi the pickup Ben was driving got hit by a drunken local on his way home from a late night session. Half an hour of negotiations plus a quick video of him later admitting it was his fault entirely, and we were back on track and heading to the dive site!

On arrival at the support, the locals again came in droves. We got straight down to business; the support team speedily installed the large J-tanks of Nitrox needed for decompression and oxygen in case of emergency at the habitat and we were geared up and ready to go. The plan was for Mike and I to dive first as we were both diving rebreathers, I with the ISC Megalodon and Mike his Ouroboros with home-built bailout rebreather for redundancy. Ben was diving open circuit and diving last, as this allowed him use of our bailout gas as additional decompression gas should he need it.

A fast descent past the habitat to the mainline running directly to the cave entrance at 28 metres – visibility outside the cave was poor, but once inside the cave entrance at 30 metres it cleared right up to 20-plus. Mike and I levelled out at 40 metres to check we were OK and all equipment was functioning, then off we went. Mike had both a primary and redundant 6 Silent Submersion scooters and I had my right Primary Leg with bailout left in case of failure. Now deep inside the cave, I had a scheduled dive of 20 minutes in and 20 minutes out to a maximum of 125 metres, and Mike had planned 30 minutes scooter in and 30 minutes scooter out to 140 metres. He was to concentrate on pushing the cave and laying some new line in the passageway and I was to survey the cave.

Having swam in for 19 minutes to a maximum of 78 metres, it was time for me to turn back to my first decompression stop. The cave runs for quite a distance before dropping to depth and is a steady dropoff all the way down. It's only possibly to reach the 100 metres mark with a scooter so as not to incur a massive decompression penalty. A slight flow back to the entrance and I arrived safely at my first decompression stop with a reduced hang time of 110 minutes ahead of me. Once back at 30 metres

Dr Ljubisa our medical support joined me to ensure all was well, which it was. My thoughts were now with Mike and his dive. Having completed my decompression I was keen to find out if Mike was back at the exit and soon after de-kitting it was confirmed he was.

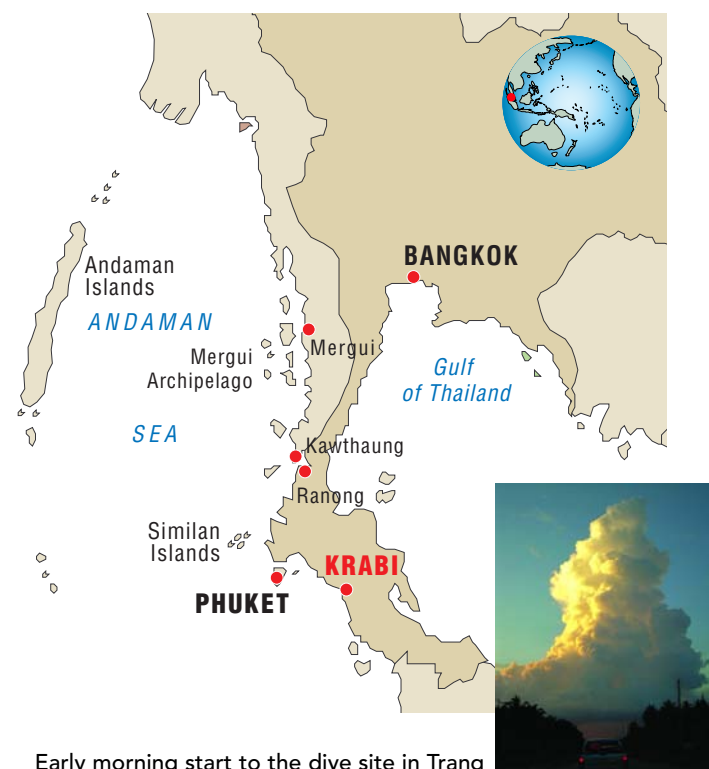
It was now time for Ben to begin his dive as he planned to retrieve the scooters from Mike to allow him access to the deep dropoff. Ben's planned depth was the same as mine. He began his dive and journeyed to 98 metres before heading back. After 30 minutes from his descent it was reported Ben had also safely exited the cave and was making his way to the habitat for his remaining decompression.

Six hours had passed and Mike was finishing his final decompression stop. Ben and I were both back, and in good health and the support team began to retrieve the stage tanks and scooters from the habitat. Mike finally surfaced with a big grin on his face; he'd successfully pushed the cave to 141 metres for an impressive 900 metres, the furthest diver to push the cave to date. He achieved his goal of laying new line in the passageway of over 100 metres, a nice way for him to end his birthday.

All the deep divers took plenty of time to rest, hydrate, and grab a bite to eat while reminiscing on the trip's events, a great trip all around.

We plan to return armed with even more logistics, deeper support, redundant scooters and bailout rebreather to survey the deeper section of the cave in early spring 2008.

I'd like to thank the entire team of support divers for all their efforts, Pro-Tech staff for their help with gas blending and logistics and Ismial at Anawin Bungalows in Ao Nang for putting up with the team during our visit and also One Stop Dive in Krabi for helping us locate the system in October.



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Top: Mixed gas rebreather being prepared for action
Bottom: Ben and Mike preparing their scooter for the big dive

