



*Odyssey of the*

# Life Amphibious

*Expedition*



life amphibious

Text by Lloyd Godson  
Photos courtesy of the  
Life Amphibious Expedition

**We were headed for the island of Kefalonia off the western coast of mainland Greece. This would be the starting point of the “Life Amphibious” underwater odyssey. The plan was to pedal a human-powered submarine 15 nautical miles (28 kilometres) through the Ionian Sea to mythical Ithaca, the home of Ulysses. In the spirit of Homer’s epic and Jules Verne’s Captain Nemo, we would soon begin our own grand voyage to Ithaca.**

Andreas Petalas allowed us to use Fiskardo’s Nautical and Environmental Club as our base. When we arrived, a strong southerly wind was blowing and the sea was a mess of waves and whitecaps. Omer 6, our human-powered submarine, had arrived from Canada in time and was being unloaded from a truck. The brains behind this machine, four Omer submarine engineers, were on their way from Canada’s École de technologie supérieure in Montreal.

Lloyd Godson pilots the Omer 6 human-powered submarine off the Ithacan coastline, Greece. Lloyd pedalled Omer 6 for five nautical miles in total and maintained an average speed of approximately four knots. At a cruising depth of five meters he could stay submerged for 1.5 hours





LEFT & RIGHT: Having clipped his cycling shoes into the pedals, Lloyd Godson is ready to begin his Omer 6 pilot training in a swimming pool close to the expedition base at Fiskardo 's Nautical and Environmental Club on Kefalonia



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Meanwhile, we had been dealt a serious blow by the Ministry of Commercial Shipping's Port Police Management. At the eleventh hour, they rejected our request for permission to place Omer 6 in the sea.

My wife, Carolina Sarasiti, was glued to her phone as Andreas studied his maritime law books desperately trying to find a solution to our dilemma. It didn't look good. The weather continued to deteriorate and all flights in and out of Kefalonia were cancelled. The Omer submarine team was stuck in Athens. The bad weather and unexpected red tape had already delayed us by a day.

I took a leisurely walk with my father-in-law and Greek engineer, Vageli Sarasiti, in an attempt to clear my head. We came across a large catamaran getting smashed against jagged rocks and scrambled on board to help. The waves were relentless. We managed to free the boat from the rocks but one of the engines was jammed solid. Vageli and I grabbed a mask, knife and torch and dived into the murky water. It was like being in a washing machine but we eventually managed to cut through the rope that was wrapped around the

propeller shaft.

After sailing for 29 days across the Atlantic Ocean, we were also left wondering where the calm, warm, sparkling blue water was of which the Ionian Islands were so famous for. At least my head was clear.

When the Omer team arrived we celebrated in true Greek fashion. The project remained blocked, but their high spirits helped us forget the bad news for a while. Surprisingly, after almost two years of planning the world's first human-powered submarine

expedition we had never met before this day. They were happy that I really existed and the whole thing wasn't just some strange prank played out by a guy in his basement!

Later in the day, continual bad weather and red tape still prevented us from testing Omer 6 in the sea. We desperately needed to get the sub in the water so I could begin my pilot training. With no time to lose, I found a nearby resort that was willing to help us out. When I returned with the good news, drills were screeching as the engineers assemble the submarine.

### Into the pool

We carried Omer 6 up the near-vertical stairs and placed it beside the resort pool. A very intrigued crowd

started to gather, mostly English tourists, who decided to hang around and watch the spectacle unfold before them. Some looked shocked and some were laughing as the Canadians took turns at splashing them, unintentionally of course, with their elegant pool entries. I'm quite nervous as it was my very first time inside the wet, free-flooding submarine. It was a good thing I was not claustrophobic as there was not an inch to spare. I clipped

my cycling shoes into the pedals and pushed my head fully forward inside the clear polycarbonate window. The door latch was locked into position and my training began.

We spend the next two hours going through safety procedures and trimming the buoyancy as I piloted the submarine from one side of the pool to the other. I finished the day off by pedalling flat-out for half an hour against the pool wall. Based on my gas consumption on the surface, we calculated that I would have about 1.5 hours of air at an average cruising depth of five meters before needing to surface and refill my cylinders. So, apart from the one small detail that we still didn't have permission to start, the day was a success. The resort crowd applauded our efforts.

Our next challenge was to prepare our support boat, *Neptune 3*, for the launching and retrieving of Omer 6. Since the boat was on loan to us by Fiskardo's Nautical and Environmental Centre, we were unable to make any permanent modifications. So, the Omer team had



The Omer submarine team from the Université du Québec's École de technologie supérieure in Montreal, Canada, trim the buoyancy of Omer 6 as Lloyd pedals the submarine from one side of the pool to the other





Lloyd Godson enters Omer 6—the human-powered submarine he used for the Life Amphibious expedition. Omer 6 is what's known as a "wet" submarine, meaning it's completely filled with water.

built what we affectionately referred to as 'the medieval structure'.

It's not pretty, but it seems to work. The chain pulley block slides smoothly along the recycled timber and steel beam which juts out several meters from the boat's stern.

I trusted the engineers that it could handle Omer 6's fully laden weight of 150 kilograms. It definitely attracted a lot of attention, especially from the local port police who had been watching us like hawks. They were well aware that we still didn't have permission to start and were suspicious about our constant hive of activity. Perhaps we were overly optimistic.

## Getting the green light

Good news at last! It's been five days since we arrived on Kefalonia and

our persistence finally paid off. The weather was clearing and the Port Police Management reversed their decision, freeing us to go.

We triumphantly carried Omer 6 through the streets of Fiskardo and loaded it onto *Neptune 3*. To make up for lost time, we skipped the deep channel crossing that separated the two islands and headed directly to Frikes in the north east of Ithaca.

In a protected cove, Tommy Gagnon lowered Omer 6 into the sea for the very first time. Omer Team Leader Jacques Boivin also made his first saltwater dive and laid a rope on the seafloor parallel to a small pebbly beach. Today was a good chance to identify any problems before we ventured into the open sea. It was also the first chance we'd had to test

out the surface marker buoy which indicated my position underwater and limited my depth to seven meters.

Assistant Professor Simon Joncas explained some basic hand signals to me before I descended and started making 50 meter sea trials above the rope. Safety divers caught me at either end, spun me around and gave me the signal to pedal again. I could hear them grunt as I ploughed into them at about four knots with a submarine full of almost one ton of water!

Cars were stopping on the road above to see what on earth this shark-like thing was in the water. Amongst them was the mayor of Ithaca who swam out to *Neptune 3* for a while and a small boy who could be heard yelling, "Wow, it's like a speeding

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bullet!"

I mastered the art of steering quite quickly, so was presented with my final and most demanding challenge; to steer in deep blue water where I couldn't see the bottom. I set a bearing on my digital compass, perpendicular to the beach, and attempted to follow it out to sea. With no visual reference point this task seemed impossible. The rest of the team trailed my surface marker buoy as it zigzagged towards the rocky coastline. It was back to the drawing board at our next destination; the small port of Kioni.

## Kioni

We were greeted by screaming kids running to see the submarine. Made almost entirely from carbon fibre it looked like something straight out of a James Bond movie. Adults were equally amazed by this world-class machine. Our aim was to inspire environmental awareness by using technological innovation in an adventurous way. We were trying to get young people excited about science and engineering.

"BioSUB Boy's Race Track" was drawn on the back of some sandpaper and provided the perfect solution to our last remaining problem. Using a combination of ropes, weights and flags, we started working on our underwater highway. Several pieces of rope were tied together and Vageli's white t-shirt was sacrificed to make the flags.

We left Kioni and submerged the "race track" which would lead me to Vathy, the capital and main harbour of Ithaca. Terry Savard, also referred to as 'Princess', lathers himself in sunscreen. Having travelled from northern Canada where the daily maximum temperature is well below freezing, he opted for the sundrenched job of 'observer'. The Omer engineers have done their hard



Lloyd Godson and the Life Amphibious team prepare to put Omer 6 through some small 50 m sea trials in a protected cove near Kioni, Ithaca. It is the first time the submarine has been in the sea

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Lloyd Godson is a modern-day underwater pioneer with a passion for delivering innovative educational projects. In April 2007, the Australian aquanaut and marine scientist successfully completed "The BioSUB Project" ([www.biosub.com.au](http://www.biosub.com.au)) for which he was named the 2007 Australian Geographic Adventurer of the Year. In this wacky scientific experiment, Lloyd lived for 12 days in the world's first underwater habitat incorporating a plant-based life support system. The project was the winning entry in the Australian Geographic \$50,000 "Live Your Dream" Wildest Adventure Competition. You can keep up-to-date with all of his "Life Amphibious" activities here: [www.lifeamphibious.com](http://www.lifeamphibious.com)

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Lloyd Godson wearing his SCUBAPRO EverFlex neoprene steamer. Lying face down and pedaling for 1.5 hours at a time, Lloyd needed a wetsuit that stretched naturally with his body during the cycling motion



MEDASSET, the Mediterranean Association to Save the Sea Turtle, helps the Life Amphibious team spread the environmental message with their educational 'Small Garbage Leaflets'. Carolina Sarasiti and Lloyd Godson explain to school children from Vathy, Ithaca, the devastating effects that "Small Garbage" have on the marine environment. Entanglement and ingestion of small pieces of personal waste, discarded on beaches or directly into the sea, accounts for over 100,000 sea mammal and sea turtle deaths globally each year

miles (ten kilometres) in total with no major mechanical breakdowns. That was a feat in itself when you consider this was the first saltwater test of technology that had previously been limited to 100-meter sprints in a freshwater basin.

Now we're all primed and ready for the second phase of the "Life Amphibious" in the summer of 2010: 100 nautical miles (185 kilometres) from Corfu to Ithaca using Omer 7, the latest generation of two-seater non-propeller submarine. I just need to find a co-pilot crazy enough to join me. ■

Alexander Sarasitis of Trygons Designs films Lloyd Godson piloting Omer 6 off the Ithacan coastline. Lloyd pedalled Omer 6 for five nautical miles in total and maintained an average speed of approximately four knots. At a cruising depth of five meters, he could stay submerged for 1.5 hours. With a top speed of almost five knots, Omer 6 is the fastest submarine of its type in the world

knots (6.5 to 8.5 km/hr), which was pretty impressive for a one-seater human-powered submarine without a propeller. It was no wonder that Omer 6 had the world speed record of almost 5 knots (9 km/hr), recorded at the International Submarine Races. It was also obvious why the Omer team captured the Smooth Operator award at the same competition.

My computer was beeping and alerting me of an 'Increased workload'. At a depth of five meters it estimated my

gas consumption at a whopping 60 liters per minute.

With its unorthodox propulsion system, consisting of two large wings following an oscillatory movement, Omer 6 is the ultimate exercise machine.

Regardless, I couldn't help but chuckle into my regulator as I pedaled this man-sized submarine in 300 meter deep water among the Greek isles under my own propulsive power. It felt like I was "flying" through the water, free, like a dolphin. Sadly though, the feeling was short-

lived, as strong winds and torrential rain prevented me from reaching my final destination.

### Afterthoughts

Greek poet Constantine Kavafis wrote, "When you start on your journey to Ithaca, pray that the road is long, full of adventure, full of knowledge." Our road to Ithaca had certainly been all of these things. We solved all of our problems and managed to travel about 5.5 nautical



The team celebrates. LEFT TO RIGHT: Carolina Sarasiti, Lloyd Godson, Terry Savard, Simon Joncas, Tommy Gagnon and Jack Boivin

work, now it was up to me to do mine.

The flag system worked beautifully and led me due south towards Vathy. A GPS clocked my speed at 3.5 to 4.5