

taught to swim and dive in this fashion, if approached in the right manner, and this is borne out by the fact that Mark was not an extraordinary pupil, just an average one.

Although one was not used to help Mark, a neoprene vest provides a more natural form of floatation than bulky inflated floats which have the added danger of possible sudden deflation. A child wearing a vest has just enough buoyancy to stay on the surface, and with both his legs and arms free can move them in the normal manner. It is also unwise to provide a child learning to swim with flippers. True, these are a great aid, but the child could become reliant on them and be practically helpless without them. The flippers should be a reward for accomplishing a certain proficiency.

Many parents feel it is not worthwhile trying to teach their children to swim until they are 5 or 6 years old, but from the age of one, a child is quite capable of falling into water unnoticed, and drowning. These tragedies occur in ever-increasing numbers each year, but if the unfortunate children had been coached to swim a few strokes, they could have possibly saved their own lives.

Once a child can swim, diving follows on naturally. Mark is now 5 and dives like a little champion. Observers often remark how clever and brave he is. My reply is how sensible his parents were in having him taught early in life; just think, his breath control is pretty good now, what will it be like in 10 years time?

Children are natural skindivers; to them it is a form of play. All they need is a little encouragement and once they start they just can't be stopped.

HOOKAH UNITS

4 Cubic Foot	8 Cubic Foot	14 Cubic Foot
\$289	\$385	\$495

FEATURES

- ★ Famous Honda motors
- ★ Autolux compressors with roller bearings and cast alloy body
- ★ Multistage filter system
- ★ Rubber mounted
- ★ Hot dip galvanised base plate: all other steelwork cad.-plated

Available from Hartleys, Melbourne

Trade Inquiries other States:
Michaelis Hallenstein & Co. Pty. Ltd.

or direct from:

Undersea Enterprises

211 CUNNINGHAM AVE., MAIN BEACH,
QLD., 4215. Telephone: 2-4351

Subterranean Scuba

Article and Photos by Denis Robinson

Cave exploration is not new; man has lived in caves since he first walked the earth. Limestone caves and caverns are found in most countries throughout the world and have been a source of knowledge for scientists.

Rock carvings and paintings on the walls depicting life and scenes have been dated back thousands of years. Amongst the earth and ashes of many fires, bones of animals as well as the implements that were used to kill them have been found in near perfect condition.

Amongst divers, the best-known water-filled caves are around Mt. Gambier in South Australia. There are hundreds of caves, caverns, sink holes and depressions in this area which have been extensively explored by the Mt. Gambier Diving Groups. Names like Piccaninny Ponds, Baby Blue, Ewens, The Shaft, One Tree, Kilsby, and The Pines are but a few of the more popular diving spots visited each year by hundreds of divers from all parts of Australia. To travel a return trip of two thousand miles for a Sydney diver or four thousand for a Queenslander, just for a week or two, seems incredible to most people. However, these people aren't divers and to dive in the clearest water in the world is an experience no diver can resist.

The water in these caves is filtered to an almost unbelievable clarity by travelling along hundreds of miles of underground waterways. Divers from other parts of the world, accustomed to ocean visibility of anything from 5 to 50 feet, nearly go out of their minds when they plunge into water of at least 300 feet (that's on a bad day). The danger is that these divers, travelling great distances, try to achieve as many dives as possible in the short time they have available. Decompression times tend to be waived and with no recompression chambers in the area this could prove fatal.

The lure of the deep, clear and eerie grottos is a temptation not to be taken lightly. I strongly recommend the use and observance of "automatic decompression meters" as used by the members of my own club, "South Pacific Divers". We have made dives down to 296 feet and the bottom was still not in sight.

Sediment on the sides and ledges is stirred only to descend in your wake, blocking out all visibility and the return route through the intricate maze of passageways. Diving under these conditions is extremely hazardous and safety lines would seem an obvious solution, however, these sometimes become entangled around divers or rocks and equipment and can drown a man inches from safety, if not tended correctly. Underwater torches, lanterns, or flares are necessary but if the sediment is stirred no light can penetrate its barrier.

There is no doubt that underwater photographers find a paradise in the sunlit upper caverns of the Mt. Gambier area. The waters being gin clear, give the diver the impression of being suspended "in mid air" with no apparent means of support. When I first visited the Cathedral Cave in Piccaninny many years ago I kept reaching out for a rock or ledge on which to hold, for I felt that I was going to "fall".

There are many limestone caves visited by caving groups with little or no use of diving equipment. These cavers explore the subterranean passageways as far as they can until they reach water and if there is no way around they call in experienced cave divers. The study of caves is known as speleology and the participants are referred to as speleologists sometimes corrupted to "spelunkers".

Not all caves have water in them; quite often they have CO₂ (Carbon dioxide) filled pockets. CO₂ being heavier than air sinks to the bottom and if there is no exit, the deadly gas builds up and an unsuspecting caver may find himself in a position not envied by others. The normal method of detecting CO₂ is to carry a lighted candle in a suspect area, when the flame begins to flicker or die it is time to retreat. The breathing rate increases in such an atmosphere because the body requires more volume of air to extract the diminishing ratio of oxygen. This can be confused with fatigue or exertion from the hard work involved in carrying equipment and the descent itself.



Cavers like Kim Woodward, have found the Nikon camera ideal for caving conditions . . . water . . . dust . . . humidity.

Most caves have beautiful formations of calcite deposits, built by the action of water running over limestone. The "icicles" growing down from the roof are called stalactites and the ones growing up are known as stalagmites. There are others, horizontal and twisted in all directions . . . helictites . . . thought to be caused by changes in air currents; there are many theories of their origin.

Caves in N.S.W. such as Jenolan, Wombeyan, Yarrangobilly, etc., are known as "tourist caves" and these are not frequented by cavers of the type we are discussing in this article. Caving clubs and groups tend to explore the little known ones off the beaten track, so to speak, quite often requiring 4-wheel drive vehicles, and miles of walking when the road ends or becomes impassable.

We have carried diving equipment miles to a cave, lowered it down ropes and ladders, hundreds of feet, pushed and dragged it through narrow squeezes, donned it in almost freezing water, plunged in only to find the other end of a "big underground lake" 20 feet away as a blank wall of rock. The long drag back out to the sunlight seems twice as far as you are cold and wet after a prolonged dive determined to find a way "through" to some "unexplored cavern".



Ahhh . . . daylight

The temperature in most caves is around 50 degrees F and there's no way of warming up successfully, especially after being submerged in icy water. The humidity is very high and being no sunlight, only a small amount of plant life exists, such as fungi and lichens. It is not uncommon to find the world's only flying mammal, the bat, as company deep underground. These creatures are able to find their way in the "dark zone" by utilising their inbuilt radar systems. Cavers are not so well equipped and must rely on their lamps. The lamps are usually mounted on a safety helmet (the type as seen worn by construction workers) and are powered by batteries or acetylene gas.



Denis Robinson, President of South Pacific Divers, emerges from an exhausting climb in the "Glop Pot", (a small system in the Cooiemans Caves area) with the assistance of club members. Photo by John Allen.

As divers you will appreciate the need for competent instruction before attempting to dive. So it is with caving. Cave diving should never be attempted by inexperienced cavers. To gain experience in caving contact a caving group in your area as they have programmes and outings designed to impart confidence and knowledge to beginners. Before you attempt your first easy cave you

must be instructed in basic ropework, ladder drill, and care of equipment. You then will learn cliff climbing, AB sailing, belaying, chimneying, traversing, and many other skills.



Jack Robertson, geared up safety man, waits the return of S.P.D. Club mates in Bendethera Cave.

Diving and caving go well together, when the sea is too rough or dirty, you can nearly always go caving. Once inside a cave you tend to forget about the weather

outside. However, during your stay underground you should remember that a quick, severe thunderstorm can bring torrents of flood waters down a mountain side and fill a cave completely. The two sports have one basic similarity in that it is highly dangerous to dive or cave by yourself. Whilst caving you can easily slip or fall resulting in broken bones and without assistance you would surely expire. In Australia the caving fatalities are almost nil . . . play it safe . . . the fellow who tries to make it alone usually only makes statistics.

There are several caves in N.S.W. that have water syphons that need further exploration. Names that come to mind are Tuglow (near Jenolan in the Blue Mountains), Cooleman River Caves (near Adaminaby in the Southern Alps), and Bendethera (west of Moruya on the South Coast). The Nullabor Caves in Western Australia offer tremendous scope.

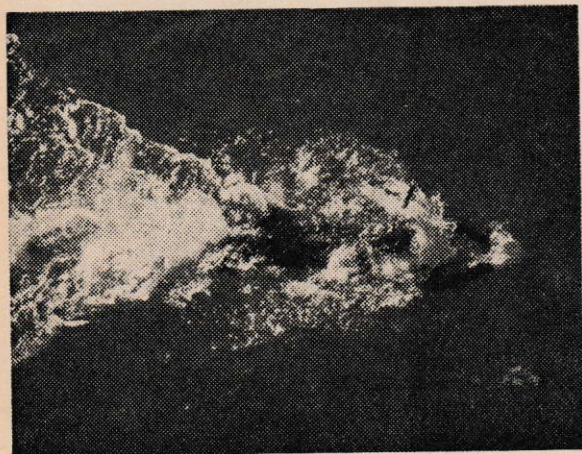
There are not many places left on the surface of the earth where man has not ventured; however, each time you go down a cave there is always the possibility of finding a new cavern.

To be the first human being to set foot inside is itself a reward worthy of the challenge to cavers.

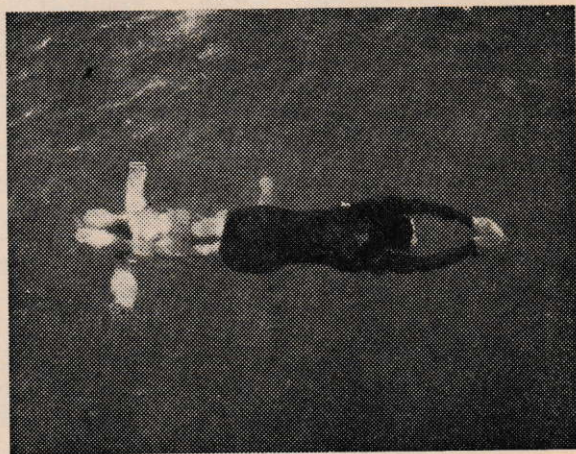
THE AQUEON—TEST REPORT

On first glance this unique machine appears to be some simple form of child's toy, but as A.S.M.'s Test Reporter quickly found out, this is far from actual fact.

The venue chosen was Sydney's North Head, where Mr. Phil Dulhuntley, Manager of Greenwich Marine Corp. Ltd. demonstrated the correct methods of adjusting the "Aqueon" to suit each person and then took to the water and demonstrated the propulsion and manoeuvres that can be achieved while using the Aqueon.



The AQUEON enables swimmers to obtain speeds of over 5 knots.



The AQUEON is used underwater as well as on the surface.

Our Test Reporter was then invited to try the machine and soon found out that it requires some practice before achieving any proficiency with the Aqueon, but after further instruction from Mr. Dulhuntley, has was soon speeding through the water, both on the surface and along the bottom, much faster than he had ever swum using flippers.

The conclusions drawn from this demonstration and test are: The propulsion and speeds claimed by the manufacturers are not an exaggeration, and could greatly assist divers; both S.C.U.B.A. and spearfishermen, who wish to cover long distances, swim against currents hitherto too strong to combat and increased speed for general swimming.

One factor obvious to A.S.M.'s Test Reporter was that correct instruction and practice is required before proficiency can be achieved on the Aqueon.

The practical applications of the Aqueon are manifold and only time will tell just what uses divers in Australia will find for it. Needless to say, any persons interested in swimming, particularly youngsters, will have many hours of enjoyment while using it. For further information see advertisement in this issue.