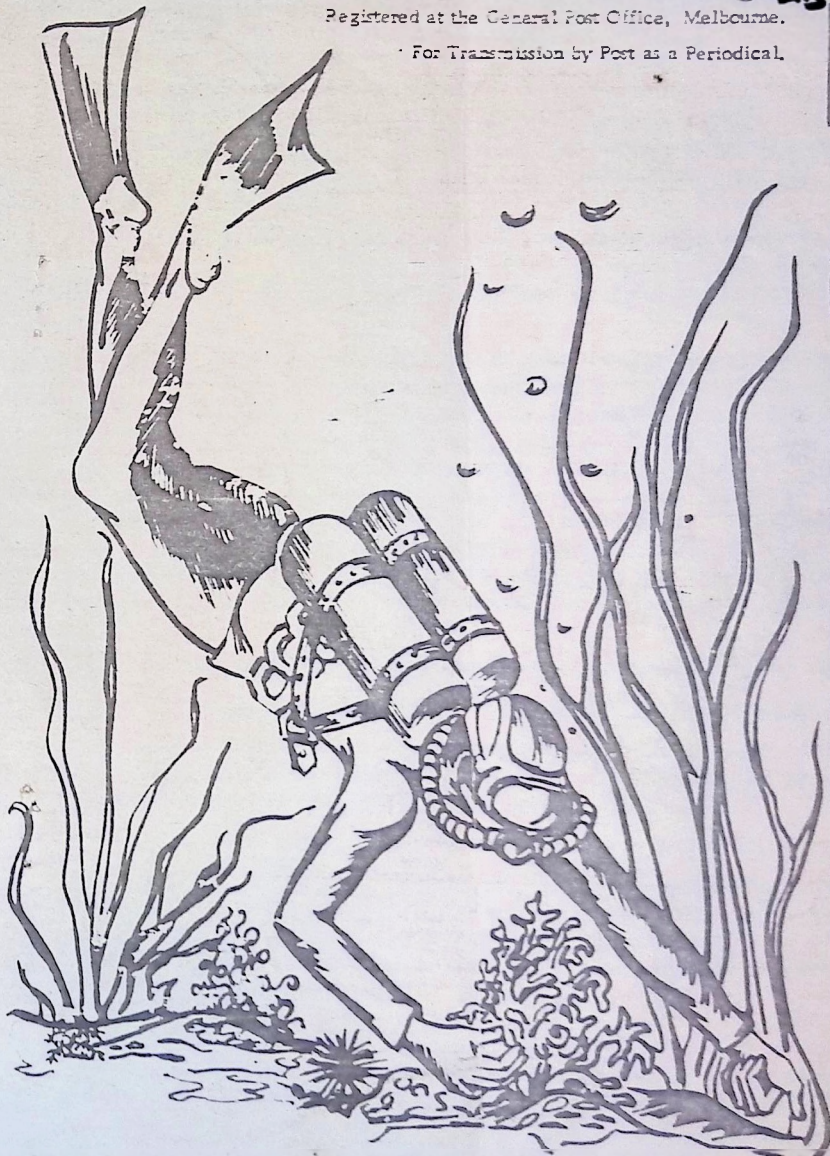


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FEB 75



# FATHOMS



## VICTORIAN SUB-AQUA GROUP

EDITORIAL -

Feeling very lazy (note the size of the newsletter) and very relaxed after a good two months away from all the meetings and so on, I find it very hard to get started.

The last time I wrote an editorial the main vein of my ideas was to try and get across the idea that rules are based on experience and usually hard facts but that more important in my view is what goes on in your own brain.

In a general discussion late last year it was mentioned that a quick way to kill yourself is to breathe pure oxygen in pressures approaching two atmospheres. After what started as a general discussion had ended as a heated one, it was impressed upon me that I think we had missed the main item of value which could have come out of the talk. Agreed, that fact is definitely correct, but I believe that more important than knowing the fact alone is knowing why it is correct. I didn't find out then, and I have't yet found out why oxygen can kill you in quantities at a partial pressure of about two atmospheres, but it will kill you and kill you quite well. In other words the rules give you the basic facts.

1. Don't breathe compressed pure oxygen below about thirty feet.
2. Don't breathe compressed normal air at depths below about 297 feet.

Most divers wouldn't in their right minds break these "rules", although they could give themselves a good dose of oxygen poisoning without approaching either of the two extremes.

A simple way of presenting the problem can be in this way.

What will be the effect of breathing compressed normal air at about 297 feet. The answer simply is that every breath of air you take is composed roughly of the equivalent of 8 atmospheres of nitrogen and two atmospheres of oxygen, a toxic level of oxygen and you'll probably black out and drown.

O.K., you'll never dive to 297 feet so you're safe.

Put yourself then at a much shallower depth, and one at which you are a lot more likely to reach. You're floating around at 150 feet and everything's great. Each lungful you take is roughly the equivalent of one atmosphere of pure oxygen and four of nitrogen. You are well within the safety zone (from the point of oxygen that is), so everything should be apples.



Editorial (Cont'd.)

All of a sudden however you find you have to work hard. Perhaps you find a large object you wish to lift, maybe you have to swim quickly to fight a current or help a buddy. Your breathing rate will immediately rise and it obviously could double or triple. What is now the effect of this. You'll now be getting the equivalent of two or more atmospheres of pure oxygen (though not at two atmospheres pressure) in the same time as you were previously getting one. Does oxygen give the same effect as it will as outlined in the basic rules? Will you black out and thus give yourself a good chance of dying or am I just wasting my time barking up the wrong tree. You might not even get to 150 feet but tripling your breathing rate at 100 feet, or a similar ratio, might give the same result at shallower water.

Nobody has yet proved me right or wrong, though as far as I am concerned I'll play it safe and assume that would be the effect. The only way I'll be convinced otherwise is if someone explains to me NOT that oxygen can kill me, but HOW and WHY it can kill me. In other words it's not really important that I know the rules, what is extremely important is that I know the rules and the REASONS for the rules as well.

All of this is related also to the second story I wished to mention this month.

No doubt the other contributors to the magazine will go through the story of the Loch Ard weekend that never was and cover all the details. Just in case they never saw one of the details I was intimately concerned with, then I'll tell you an interesting story.

On the 26th January three valiant VSAG members found themselves in the midst of a shipwreck in the middle of Croft's Bay. A freak wave tipped divers, gear and the boat upside down in what then proceeded to become a great surf area. While struggling through the process of righting the boat one of the members remarked that we were putting on a good show for the tourists. He was right. There were hundreds of them all standing beside their cars at a lookout about a mile away and the sickening thing was that was all they did, look. Not a car moved away from that park in over fifteen minutes. Maybe they just knew we were "crash hot and doivers" but if we'd been forty-year-old fishermen without wetsuits on, I think they would have done the same thing, nothing. It shows that when the chips are down, you rely upon yourself. This doesn't mean people won't help, just don't count on it.

ED.

C A L E N D A R -

- FEBRUARY 23rd - Flinders Area (Bushranger's Bay). Boat dive, leave from Flinders Pier. Dive Captain: Brian Lynch, 662-0201 (work). 10 a.m. inspection. Leave after inspection.
- FRIDAY, - House warming at 8 Penang Street, McKinnon.  
28th FEBRUARY BYOG at 7 p.m. Phone: 58-2310
- MARCH 8th, 9th, - Port Campbell.  
10th Pat Reynolds, Dive Captain. 232-9188  
Meeting prior to the weekend, Thurs. 6/3  
8 p.m. at 8 Penang Street, McKinnon.
- MARCH 23rd - Portsea Hole. Dive Captain, D.J. McBean, 232-4894  
8.30am inspection (this means you may sleep in on Saturday morning). Phone between 2pm and 5pm Saturday.
- EASTER, 28, 29, - Wilson's Promontory. Dive Captain, J. Goulding.  
30, 31 MARCH Meeting prior to weekend, 8 pm Tuesday, 25th March. All names to be in to J.G. by March 10th.
- SAT., SUN. - Skiing weekend, Jerusalem Creek, Eildon.  
15th, 16th MARCH Organiser - Dave Moore, 547-2791
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SEARCH FOR THE "GAMBIER"NOVEMBER 24, 1974

On August 28, 1891, the 1030 ton S.S. GAMBIER was steaming up the bay and as she neared the Popes Eye Shoal the 969 ton S.S. EASBY was sighted. Fortunately for us divers there was a misunderstanding of one anothers intentions by both captains which resulted in the Easby bow slicing two-thirds of the way through the Gambier, sinking her almost immediately. The loss of life was put at approximately twenty-two souls (not quite so fortunate).

Our own resident club wreckologist, one Dave "Cat" Carroll had diligently tracked down reliable information re the last resting place of the Gambier and today was the big day we were all about to fine out how reliable this source of information was.

By 10am 11 divers and 2½ boats had arrived at the Sorrento boat ramp and were looking to Cat for guidance to the intended location of the S.S. Gambier believed to be lying in 7 fathoms of water.



Search for the "Gambier" (Cont'd.)

We hoped to locate her by drifting with the tide or else being towed along by the boat and we were extremely pleased to see that the bay was quite calm.

During the week it had been previously arranged by Justin and Dave that a few of the members from the Jet Boat Club might be interested in assisting with this venture and we had just about given up hope of their arrival when these 2 "Funny Little Tubs" appeared right over the sandbanks to the east of the ramp. They just had to be jet boats; especially when they powered right up on to the beach. However, we all love those faithful prop boats and despite all the pleading to go for even a short ride in their jet boats we all refused and set off in the prop boats.

Noel Lees in his new boat with Brian as co-paddler were first to set off; with the brothers Smith plus Johnny, close on their heels in Terry's Ali boat which now has something to beat. Bazza's boat with Bazza, Dave, Gary Heyting, Frank Kerkson, Roger Townley and myself, was slightly slower to get going but very quickly overhauled both boats and was just about to Pope's Eye as the others passed Portsea Pier.

Once there Dave tried to astound us all with his knowledge of a bearing compass and other paraphernalia pertaining to the sea and, apart from using numerous ports and starboards to confuse poor Bazza who's only just got used to lefts and rights, he finally managed to get "Marie" in position. When we let go the anchor it held fast on something extremely solid.

When the jet boats joined us we asked if they could make use of their depth sounders to try and locate the wreckage which we were led to believe stood some 6 feet off the bottom at 42 feet. However they shortly developed a keener interest in Popes Eye and we never sighted them again, although before they departed they did give us one possible spot to try at.

Dave and myself were the first to dive. With line attached we drifted down towards the Heads. Visibility was not much more than about 15 feet and on many occasions odd shadows in the water caused us to think that we were right on it, but alas it twas not so.

We had four runs of about maybe  $\frac{1}{2}$  a mile each using about 500psi of air on each occasion. On the second run we skirted the edge of an area which was littered with crockery a couple of pieces of which Dave managed to collect. We also saw numerous bottles

Search for the "Gambier" (Cont'd.)

some of which were interesting enough to retrieve.

Early during the third run we saw some large pieces of timber half buried in the sand. As we sped by we dropped the marker buoy we had been carrying; we endeavoured to pass this spot again on the next run, however we missed by quite a few yards.

Next into the water were Bazza, Frank and Brian. Their first run was not any more successful, however on the second try Brian located plate with the insignia of the Gambier's shipping line on it. This plate was upside down in the sand and Bazza tells me that when Brian saw what he had, his eyes were nearly as large as the plate.

Frank being low on air, Roger and Gary joined Bazza and Brian for their final run which turned up a few more bottles but no signs of wreckage.

As we came near to Terry's boat we found out that Johnny had also found a plate and this along with the other finds spurred "Cat" along to go for the final run with Roger which unfortunately discovered no more of value.

By now we were all beginning to think more seriously about a bit of food for the old tum tum. So it was back to Portsea where Pat Reynolds was dutifully looking after the club birdlife.

As the day was extremely warm and the sun quite ferocious we all tried to huddle in the shade of Annette's beach umbrella to escape being burnt to a crisp, as some of us were well on the way.

After a feed and a rest along with the odd look of appreciation of the local talent we waded out past Johnny and Maree having borrowed some blokes spare snorkel. Once more aboard "Marie" we headed back to Sorrento to sort out various items of gear and reload boats upon trailers, etc. It appears from the various items located that we were very near the wreckage of the S.S. Gambier and personally I feel that another try in the near future may prove quite successful.

So with some of us nursing fragile finds from the deep, others nursing sunburnt limbs and one or two nursing both we set off home after another enjoyable dive; many thanks to the Dive Captain, Dave Carroll.

HARVEY J. ALLEN



SHARK ATTACKS AND THEIR CAUSES

The following is an article taken from the periodical "Australian Fisheries", September, 1974. It is included for the simple reason that it covers in great depth and without any appearance of sensationalism a topic which is bandied about quite a lot and usually involves a lot being paid about a topic without any value coming out with the noise.

After reading it, it is probable that one will realize that the next spontaneous discourse on sharks could be better directed elsewhere.

When a diver meets a shark face to face, what should he do? Some researchers say swim towards it, some say swim away. But recent studies indicate that in certain circumstances either action could stimulate the shark to attack.

An American biologist has suggested divers in future may be able to avoid attack with strategy based on an intimate familiarity with the behaviour pattern of sharks.

Mr. A. Peter Klimley, a graduate student at Miami University's Rosentiel School of Marine and Atmospheric Science, is involved in research into the attractive or repellent effects of different sounds on oceanic sharks.

In a recent issue of the International Oceanographic Foundation's publication SEA FRONTIERS (Volume 20, No. 2), he questions the widely held view that most shark attacks are hunger-motivated.

He quotes the findings of other researchers suggesting that attack behaviour 'might rather be triggered by the disruption of courtship activities or by unknowing intrusion into a protected area by the victim'.

'It is difficult to determine the motivations underlying shark attacks,' he says. 'Hunger is the obvious explanation. Attack wounds often resemble bites by which the shark satisfies its hunger.

'On the other hand, the magnitude and shape of attack wounds do not always bear this out. It attacks are hunger motivated, one would expect the prey to be consumed either partially or wholly.'

Mr. Klimley refers to an attack on two divers off New South Wales in 1939 as one conclusive case where this occurred. The attack was witnessed and their remains recovered the following day from a 3.4m tiger shark.

Mr. Klimley also refers to attacks where the victim has lost little

Shark Attacks and Their Causes (Cont'd.)

flesh, and concludes that although there is enough evidence to say some attacks were hunger motivated it is certain that in other cases this was not the reason.

'Thus in any discussion of diver strategy towards an aggressive shark one must be aware that different motivations may drive the shark to attack. The diver must attempt to minimise those actions that would release attack behaviour in all possible motivational contexts.'

He dismisses the 'rogue-shark' theory which attributes all attacks to a few ferocious, crazed 'killer' sharks, possibly too physically handicapped to catch more agile prey, saying there is little supporting evidence.

Mr. Klimley refers to the research of California State University's Dr. Donald Nelson, who believes that the shark resembles other predators such as the lion, wolf or hawk, exercises caution in choosing its prey, and thus will not attack an animal too difficult to catch or able to injure the shark.

'The diver must be careful not to produce any stimuli generated by prey animals. These would, in all probability, release attack. These stimuli may be acoustic such as low-pitch, unevenly pulsed sounds characteristically made by fishes while they mill around in a school or feed on minnows, crabs and other organisms.

'They may be olfactory such as body fluids and blood diffusing into the water from a wound, alarm substances given off by a stressed fish, or just ionic metabolites excreted by a healthy fish in its urine.

'They may be visual such as the light reflected off the flanks of a fleeing fish or the erratic swimming movements of a crippled fish. Finally, they may be electrical such as small bioelectrical fields generated by marine animals."

The attractive and repellent character of numerous substances was gauged in the early 1960s. Sharks were found to detect extracts of fish in as minute a concentration as 0.0001 parts per million. Human blood attracted sharks in concentrations of 0.1 to possibly 0.01ppm; human sweat was mildly repellent at 1 to 2 ppm; and urine had no effect at all.

Scientists also had discovered in the last 10 years that sharks respond rapidly to low-frequency, erratically pulsed sounds such as those put out by both struggling and feeding fish.

'Taking into consideration such information, the swimmer confronted