

FEBRUARY 1965

This Extraordinary General Meeting truly deserves the name for this ONE HUNDREDTH meeting of the Underwater Research Group stands as a milestone in the history of the Group's activities.

This coming of age, or entry into adulthood by the Group MUST signal the start of an era and does not mean that we have made it and can now relax.

Recently I was asked by a member 'just what is the Group doing to stimulate interest among members?' Should any reader require the answer to this question let him first ask himself 'what have I done to further the interests and repute of the Group?' Anyone answering this question without blushing then rates as answer to the first one.

Editor

here inserted a photograph 11 X 8 cm (b&w)

photo by W. Tyler

caption below

"A cluster of large Tunicates growing in 25 feet of water at Glaisher Point, Cronulla. This Tunicate is called Herdmania momus and is closely related to the shore living Cunjevoi. It is quite common in subtidal areas growing to about the size of a rock melon and its colour is dull yellow with pinkish mouth openings.

Technical: Taken with a Nikonos camera, f8, 1/60th with flash, at a distance of 3 feet: film Kodak PLUS X 160 A.S.A."

On a dive in the west Bare Island area in early December, a vertically banded black and cream Chaetodon fish was seen swimming amongst a small school of Red Mowong. The Chaetodon is a common fish of the tropical coral reefs, where his long protruding mouth is used for fossicking in the coral crevices for food. On another dive in the first week of February TWO of these Chaetodond were sighted in the same area, again in the company of Red Mowongs. It would be interesting to find out if these fish have been sighted elsewhere, they are quite distinctive and should be easily recognised, resembling somewhat the common 'Old Wife' but without the long extending dorsal ventral fins, and with a longer 'beak'. The specimens seen were approximately 6" long.

here inserted a drawing of the fish described

During this latter dive a perfect 12" dia. specimen of the uncommon Tabular Coral *Coscinaraea Mcneilli* was levered from a rock cleft in 35 feet of water by Frank Davis. This coral grows in flat sheets on rock bases, smaller specimens resembling a rather flattened giant mushroom. The surface is a brownish colour with a wavy, ripple pattern. there are several growths in this area, but the most spectacular are two huge, 6 feet long, overlapping growths at the mouth of a cave on the east Bare Island reef, also in about 35 feet of water.

Also seen during this dive were two pair of large 'Stenopus' Cleaner Prawns sheltering under rock ledges: as yet no fish have been observed being cleaned by any of this type of prawn by our divers.

We wonder whether the presence of the several tropical species recently seen (Stenopus, Athanus shrimps, Chaetodons, Lion fish) indicate an increase in water temperature, but no evidence is seen of this in weekly temperature recordings. Cowry shells have been relatively abundant during the past year and a specimen of the northern N.S.W. 'Militaris' Turban was found recently at Congwong Bay.

C.J. LAWLER

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The transplanted abalone colony at Wedding Cake Reef has shrunk from the original 26 in July 1964 to 12 in August to a stable 5 over the past couple of months. More efforts are to be made this year to restock this area as well as to endeavour to stock an area at Glaisher point.

The large terra-cotta garden pot serving as an artificial, removable sea urchin hole has been continuously occupied by a *Rodgersii* Sea Urchin for at least two months. Already marine life is growing inside the pot; at last examination myriad 'Spirorbis' Tubeworms and several 1" dia. Jingle Shells (*Anomia*), and *Athanus* Shrimps have been seen in adjacent holes. The successs so far of this project is most encouraging. Efforts will be made later this year to lift this pot and its contents abd deliver them intact to the Australian Museum where the whole ecology of an urchin hole will be studied.

TERRIGAL DIVE

Location: Terrigal Haven Conditions: Clean & sunny Seas: Moderate

On Saturday 23rd January, U.R.G. members Bruce Connolly and Wes Tyler dived at Terrigal Haven on the southern end of Terrigal Beach. Entering the water a short swim brings you over the rock ledge into 15' of water with a sandy bottom. Turning north and following the rock face Mowong, blue and brown Groper and all the other small fry are here in reasonably prolific quantities. four large grey stingrays are seen and when disturbed only circle and return back to the same resting spot.

Two large cleaner prawns and a colony of hinge - beaks are observed and photographed in rock crevices: a 'white ears' hovers around the cleaning station. Patches of kelp come into sight growing from the bottom sand and are swallowed into the blue, depth is 40'. Visibility is quite good at about 30' in the horizontal plane.

further out depth increases to 55' with larger fish being seen more frequently. The reef consists of a tumbled rock mass and shallow ledges and is remarkably free of marine growth. On top of the reef where it rises approx. 20' from the sea floor growth is quite heavy consisting mainly of kelp.

The dive should be planned so that you emerge from the point of entry. A recommended diving spot.

W. Tyler

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'EARNING A LIVING'

At a recent dive at Glaisher Point a story as old as the sea itself unfolded before three group members. A life and death struggle, or so it appeared, but actually only the every day problems of 'earning a living'.

An octopus about 4' from tip to tip had ensnared a largish catfish about 2 1/2' long and stoutly resisted all efforts to separate it from its meal - we did manage finally to part them but so far gone was the fish that it grogily swam back into the enveloping tentacles of the octopus.

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GROUP CAMERA

The Group is now the proud owner of a NIKONOS camera - and flash unit - this is to be used to establish a colour slide library and to obtain some of the photographs for the book which we plan to publish.

The News made its debut as a 'pictorial last month and again this month we bring you an underwater photograph. We ask members to submit interesting photographs for publication in the news and for the proposed book.

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ARTIFICIAL GILLS

Following last months brief description of a permeable membrane used to draw oxygen from water, a reference was made to the possibility of a type of diving apparatus using this principal.

The following is an extract from a current 'Life" magazine article dealing with the membrane:-

'It will not be nearly so easy to construct an underwater chamber for man as it was for the guinea pig. For one thing, the guinea pig weighs less than 3oz and is content to sit ***ching his food. A 170lb man will require far greater quantities of oxygen to stay alive and will need 25 times more artificial gill than the guinea pig has in his chamber, G.E. scientists are still trying to figure out how to design a portable gill for humans. It will require some 60 sq. ft. of membrane, but must be portable.'

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A HOME UNDER THE SEA

Recently four U.S. Navy divers lived for nine days, 30 miles of the Bermuda coast 192 feet beneath the oceans surface in a cigar shaped vessel called 'Sealab 1'.

The Sealab project headed by Capt. George Bond, director of the Medical Research Lab. at the New London Conn. submarine base is a step toward a systematic exploration and future exploitation of undersea treasures and toward actually living and working near them.

Bond's studies indicated that if a diver stays down 24 hours or more his body tissues become fully saturated and beyond that time the decompression time required does not increase, whether he stays down a day or a week.

The 'air' inside Sealab, a synthetic mixture 80% helium, 16% nitrogen, 4% oxygen at a pressure of 86psi produces some curious effects. No one couldsmoke because there was not enough oxygen to light a match - water could be heated much hotter than its surface boiling point of 212 degrees but never bubbled or gave off steam - whenever anyone opened a soft drink, it sucked in air instead of squirting out fizz.

After the first few days in which the divers were lethargic there were interesting sidelights to their behaviour. When a fish which one diver had been feeding for some time appeared one day with a wound in its side he angrily announced he would cut the air hose of the next diver he saw with a spear.

The 'aquanauts' seemed to scorn safety procedures and oftenwent swimming among the fish without air tanks - one said 'you sometimes forgot you had to go back to Sealab for your next breath'.

'Now' says Bond, 'we want to go to 600 ft. and stay a month.'

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QUESTION CORNER

Is it dangerous to dive during severe electrical storms?

There is no record of a diver being harmed by lightning, even though there are numerous instances of divers working underwater during severe electrical storms.

Diving during an electrical storm is a frightening experience, but not dangerous nor even hazardous, at least not for the diver.

Lightning is the visible effect of a tremendous electrical discharge between parts of a cloud, between two clouds, or, about once in every one hundred flashes, between a cloud and the earth or other terrestrial object. Roughly the potential between the ground and the cloud must reach above 25,000 volts per inch to cause a breakdown in the resistance with a resultant flash of lightning.

The process of electrical discharge causing lightning starts with an avalanche of electrical charges which move down from the cloud for perhaps 200 to 300 feet, slow, then proceeds another 300 feet or so. By a series of steps the leading edge of the cloud charge gets closer and closer to the ground or water until a critical distance is reached. Then there is a sudden, strong surge of electricity up the same path.

It is this tremendously powerful return stroke of tens of thousands of amperes, lasting only a few thousandths of a second, that damages and kills.

It also ionizes the air to produce a brilliant flash of lightning. The important thing to note is that the damaging return stroke is from the ground or water up. Therefore, a diver who is submerged would not be affected since the discharge would be from the surface of, or more likely, from something slightly above the water, like a diver's helper in a boat.

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