

MAY 1965

LARVACEA Oikopleuria

The unheralded appearance of the rather lengthy poem in last month's 'Mag' was poor editing and I apologise. The intention was to show that marine biology need not be dull.

The poem and the following prose are from 'Frontiers of the Sea' - Cowen: -

'Oikopleura has a small body with an undulating tail that is about four times as long, the whole measuring something less than an inch.

It secretes an elaborate 'house' made of thin transparent gelatinous material. This first appears as an elastic envelope which the animal separates from its body with flicks of its tail to create a flow of water, it inflates this fragile envelope around itself like a balloon. And what a marvellous balloon it is! It has a grille that prevents all but the finest particles from entering with the currents created by its tail.

Once inside, these particles are sieved out by a pair of conical nets leading to the owners mouth. Dr. H. Lohmann found that these nets, with meshes closer than the finest man made gauze, trap flagellates measuring only one or two thousandths of a millimeter in diameter.

The history of the Larvacea is something of an evolutionary wonder. They belong to the phylum of the tunicates, many of which are sedentary animals called ascidians.

Oikopleura and other Larvacea are transformed larvae of ancient bottom - living animals similar to ascidians. Through accelerated development of their reproductive organs, the Larvae become sexually mature while still in the free swimming state and have dropped the immobile adulthood of their ancestors. This remarkable transformation was pointed out by Professor Walter Garstang.'

Garstang invariably never got around to writing comprehensive statements of this finding - his natural mode of expression appears to have been colourful and informal verse.'

Hon. Editor

STINGRAY INJURIES

I was reading an article in the Medical Journal of Australia relating to Stingray injuries, which you as divers may be unfortunate to experience, and I thought it would help to pass onto you the treatment advised.

The venom is destroyed by pH changer and heat.

The venom is rapidly necrotizing below the skin, (or to put it simply, destroying the tissues and cells) hence the injured must (rather than run for the doctor) immediately:

- (a) inject a pH changer under the shil, preferably into the wound.
- (b) apply heat (60c) for hours and if necessary days, until the cessation of heat does not bring on a recurrence of pain.

It does not matter with what the pH is changed, vinegar, hydrogen peroxide, cloudy ammonia or permanganate solution, the main thing is SPEED.

As there is practically no real scientific knowledge of the treatment of Stingray injuries, if possible the Stingray should be sent to the curator of Fishes of the Australian Museum for identification plus a careful case record of the symptoms and follow up, as only in this way can an accurate knowledge of the subject be gained.

Or failing the capture of the Stingray a rough draying and description be given.

As the first aid suggested leaves the doctor out of the picture, many incidents would remain obscure unless the information is forwarded to the Museum by unfortunate victims of this painful injury enabling further reserch to be carried out.

Jean Craddock

A NEW DIVING AREA IN PORT HACKING

Several dives have been made by members at Shiprock just inside the entrance to Burraneer Bay. This spot is very interesting with deep water (65') quite close to shore. The high vertical face of the reef is covered with dense growths of a relatively rare species of soft coral (Telesto-Alcyonarian) which has pinkish-brown branches covered with large, snow white polyps. Several unusual species of turnip-like tunicates are also growing there.

The area is also a veritable paradise of fish, all very tame due to Port Hacking being banned to spearfishing. Big schools of Old Wives, Blackfish, Kingfish, Whiting are often seen as are very large Morwongs, Chaetodons like Talma and even large Blur Groper. Big sharks are also reputed to frequent the deepest parts but so far we have not seen any. The most unusual fish seen have been a pair of Knightfish (or Port and Starboard Light fish) under a crevice in one of the deeper parts. These fish are about 6" long, yellowish-gold with black margins on each large rough scale giving them somewhat of a pineapple look. There is a red luminiscent organ on each side of the lower jaw hence the name Port and Starboard Light. The ventral fins are unusual inbthat they lock into bony grooves in the body of the fish. Other names for the fish are Coat of Mail and Pineapple fish. They hover in crevices like the common Big Eves and Roughies but are more at home in the deeper waters of the continental shelf.

Some unusual, large sea hares have been seen and growing out of the fairly clean sandy bottom are several all white sea pens. A word of warning should be given about the sandy bottom where two

Electric Rays have been seen. One of our divers contacted one of these rays with his flipper and received a violent electric shock to the whole leg. A diver receiving such a shock on the chest or upper arm could have the heart set into fibrillation with a strong chance of death ensuing before medical attention could be obtained. These rays lie beneath the sand and do not bother to move off if a diver approaches - make yourself familiar with their shape, give them all the respect of a live, wet power socket and look closely before you lie or kneel on the sand.

Inserted is a drawing of the above
caption below

"Electric Ray, Numbfish or Torpedo (*Notastrape macneilli*)

GROUP CAMERA

The Group has purchased a Nikonos underwater camera and flash-light unit which is to be used to build up a library of photographs of interest to U.R.G. members. This camera is to remain in the custody of two committee men but may be borrowed by members under the following conditions. These rules are intended to protect Group property:-

1. All film used in the camera is purchased by the Group and exposed film remains the property of the Group. Members may obtain prints or duplicates at their own expense.
2. All film must be loaded and unloaded by the custodians. On no account must the camera or flash unit be opened by other than the custodians.
3. Committee approval must be obtained by ordinary members wishing to borrow the camera and they must be accompanied by at least one committee man while using the camera.
4. The camera can only be borrowed for one day and must be returned to either of the custodians on that day for correct cleaning.
5. Photographs taken should be of subjects of interest to U.R.G. members.
6. Borrowers are responsible for any damage to the camera while in their possession and must pay for any repairs necessary. While the camera and flash is insured against loss or theft, loss by abandonment is not covered and in this event the borrower must be prepared to reimburse the Group the full cost of the camera and flash which is £106.
7. Borrowers should satisfy the committee that they are fully capable of using a camera and have had sufficient diving experience to properly operate a camera. Details of each exposure, i.e. f. stop, speed and distance settings should be noted

and returned to custodians with the camera.

NOTE: Abandonment is to knowingly abandon or jettison the camera for any other reason.

CAMERA RESULTS

With the second roll (Ektachrome 160 a.s.a.) we tried the more powerful PF 5 bulbs and focal plane bulbs. With settings from F 16 at 1/60th to F8 at 1/60th we had fairly good success, about 75% of slides taken being acceptable.

Worst results were obtained while trying to take photographs in very murky water at Fairlight and Hungry Point. The exposures were reasonably correct but suspended matter in the water showed as a haze when illuminated by the flash.

In cleaner water at Congwong Bay and Burraneer Bay good photographs were obtained with settings of F 11 at 1/60th at distances of 5 to 7 feet, with the bigger bulbs or F8 with the smaller bulbs.

On two occasions the flash did not fire. The reason for this being that the metal contact in the nylon washer inside the bulb socket had become twisted to one side. This is a point to remember in the event of a flash failure.

An excess of yellowness was noted in the very close-up shots (2' - 3') so some blue bulbs will be tried for this type of photograph on the next film.

C. Lawler - F. Davis

EXPOSURE LIMITS

U.S. Naval Institute

<u>Water Temp. °F</u>	<u>Approx. Time to Exhaustion or Unconsciousness</u>	<u>Death</u>
32	15 mins	15 mins - 1 1/2 hrs
50	30 mins - 1 hr	1 - 2 hrs
60)Local)Temp.	2 - 4 hrs	6 - 8 hrs
70)Range	3 - 7 hrs	
80	12 hrs	safe

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Recommendations from an early Cousteau book are:-

- 59° and below Dry suit
- 59° - 76° Wet suit

76° and above

No suit needed

V A C A N C Y

LOW COST SECURES

ACCOMMODATION

Yes, just 10 minutes of your time
secures this space for an article
on your interests or activities.....