

ABSTRACTS OF MEMOIRS

RECORDING WORK DONE AT THE PLYMOUTH LABORATORY

ATKINS, D., 1963. Notes on the lophophore and gut of the brachiopod *Notosaria* (formerly *Tegulorhynchia*) *nigricans* (G. B. Sowerby). *Proc. zool. Soc. Lond.*, Vol. 140, pp. 15-24.

The earlier stages of development of the lophophore seem to be essentially the same in all brachiopods: like other species the rhynchonellid *Notosaria* (formerly *Tegulorhynchia*) *nigricans* begins with a trochophore and then passes through a schizolophous stage. The structure of the final spirolophore resembles that of the inarticulate *Crania* and, even more closely, that of the rhynchonellid *Hemithyris*. The ciliation resembles that of many other articulate species, especially in the reversibility of the frontal cilia. The absence of an anus even in the earliest stages possibly increases the value of this character in the definition of the Articulata.

(Summary taken from original paper.)

CARRUTHERS, J. N., 1962. Measurement of ocean bed currents. *Nature, Lond.*, Vol. 195, pp. 976-81.

Requiring a method of measuring water movements very close down to deep ocean beds which would reveal the speed and direction of feeble currents, the aim was set to achieve both cheapness and simplicity. To these ends it was sought to produce a device which could be used by many simply-equipped ships so that hope could be entertained that many observations would later be made of the currents in the beds of submarine canyons and on the broad extents of the ocean floors. A cruise in R.V. 'Sarsia' was devoted to first trials for the purpose of an all-depths version of a leaning-tube current indicator which had already proved successful beneath 1000 m and more of water. The latter had been proved to have a depth limit of some 1400 m because it required a jelly to be kept warm and mobile until bottom was reached. Using a new modification dependent upon the solution of a treated sugarlump kept away from the water by a surround of kerosene during descent which is voided at bottom to permit the functioning of a directional inclinometer working within the leaning tube, three deep measurements were made without trouble with the ship adrift. This was thanks to the employment of an improved bottoming gear. Below 2250 fathoms of water a current of 5 cm/sec was measured running towards N.N.W. magnetic at a spot about 160 miles from Ushant Light in the direction 240° true. A scheme for widespread extension of such observations is described.

J. N. C.

CARRUTHERS, J. N., 1963. History, sand waves and near-bed currents of La Chapelle Bank. *Nature, Lond.*, Vol. 197, pp. 942-6.

A short cruise of R.V. 'Sarsia' was devoted to the measurement of near-bed currents on La Chapelle Bank at hourly intervals 'round the clock'. The aim was to increase the understanding of sand waves on the bottom which are of great size and of such interest as to have attracted the attention of a marine physicist sufficiently for him to have advanced a theory in explanation. This latter which invokes internal waves of seasonal occurrence is described, as also are lines of evidence in support of it. An account is given of past writings about the bank, and of certain French views that its

sand waves could not possibly have been formed by water movements prevailing in our time—but are the product of much brisker currents prevailing in ages past. The actual near-bed currents here reported are shown to conflict with this French view. At a height above bottom averaging some 10 inches, the current observed seventeen times at hourly intervals was never slower than 0.25 knot. The average speed was 0.42 knot. When running fastest (at 0.55 knot) the current was towards 190° true. The briskest flow in a direction farthest away from this was 0.42 knot almost dead opposite. Thus, the fastest currents were found to be normal to the crest trend of the large sand-waves (290°/110° true) with over-all water movement in favour of ultimate transport oceanwards. The near-bed current measurements reported were made with the jelly/oil version of the Leaning-Tube Current-Indicator. J. N. C.

CONROY, D. A., 1962. Aislamiento de un pseudomonadido fluorescente, de camarones. *Microbiol. Españ.*, Vol. 15, pp. 89–94.

The isolation of a green fluorescent pseudomonad from Norwegian prawns is reported, and the principal features of the organism described in detail. Reference to the work of other investigators led to the conclusion that the bacterium was of marine origin and was associated with the prawns themselves, but had not been destroyed owing to inefficient processing in the packing plant. D. A. C.

DALES, R. P., 1963. Pigments in the skins of the polychaetes *Arenicola*, *Abarenicola*, *Dodecaceria* and *Halla*. *Comp. Biochem. Physiol.*, Vol. 8, pp. 99–108.

The pigments in the skins of the lugworms *Arenicola marina* L., and *Abarenicola vagabunda* Wells, in the cirratulids *Dodecaceria concharum* Oersted and *D. fewkesi* (Fewkes) and in the lysaretid *Halla parthenopeia* (delle Chiaje) are described. A green arenicochrome-like pigment occurs in *Dodecaceria* spp., but not melanin, whilst the dark colour of old lugworms is due to a mixture of melanin and a haematin and possibly also to a product of arenicochrome. The dark colour of *Dodecaceria* is entirely due to such a product. The fluorescent pigments that occur in lugworms and in *Dodecaceria* recall those of *Halla*, and it is suggested that they may belong to the same class of substance. R. P. D.

DIMOND, SISTER MARIE THERESE, 1963. The relation of whole-body I¹³¹ uptake to thyroid activity in the developing dogfish, *Scyliorhinus canicula* (L.). *Biol. Bull., Woods Hole*, Vol. 124, pp. 170–81.

Embryos of *Scyliorhinus canicula*, removed from their cases and kept at either room temperature or 8° C, were treated with 0.05 % thiourea or perchlorate, or they were untreated. After 11, 13, or 21 days, they were exposed to ¹³¹I in sea water. Whole-body counts were made, and the thyroid glands were removed, sectioned, and exposed to autoradiographic film. At 8° C, although the film indicated the presence of a slight amount of bound iodine in the controls, there was no marked difference in whole-body count in the three groups. At room temperature, the controls had very high counts and well-blackened autoradiograms, whereas the two experimental groups had low counts and no sign of organic iodine. Only the experimentals which were exposed to the goitrogens for 28 days showed histological responses such as enlarged follicles and very numerous mitotic figures. Growth was inhibited at the low temperature, but apparently unaffected by either of the goitrogens at either temperature. M. T. D.