ABSTRACTS OF MEMOIRS

RECORDING WORK DONE IN THE PLYMOUTH LABORATORY

BOALCH, G. T., 1974. The type material of the diatom genus *Bacteriastrum* Shadbolt. *Proceedings of the Second Symposium on Recent and Fossil Diatoms, London, September 4–9 1972*, edited by R. Simonsen. *Nova Hedwigia*, Beiheft **45**, 159–63.

An account and illustrations of Shadbolt's original material are given. *Bacteriastrum furcatum* Shadbolt is designated as the type species of the genus and slide B.M. No. 293 at the British Museum (Natural History) is designated as the lectotype of this species.

BONE, Q. & RYAN, K. P., 1974. On the structure and innervation of the muscle bands of *Doliolum* (Tunicata: Cyclomyaria). *Proceedings of the Royal Society of London* (B), 187, 315–27.

The ultrastructure of the obliquely-striated muscle fibres of the circular muscle bands in *Doliolum* is described. These fibres have a peripheral myofibrillar array surrounding a narrow central mitochondrial zone; there are apparently no peripheral couplings of a sarcoplasmic reticulum with the sarcolemma. Small nerve terminals are found upon both atrial and outer surfaces of the muscle fibres; they contain electron lucent vesicles some 50 nm in diameter, and are separated from the sarcolemma by a subsynaptic gap of some 10–20 nm. The significance of the organization of these fibres is considered in relation to their role in locomotion and to the structure of muscle fibres in other tunicates.

RUSSELL, I. J. & ROBERTS, B. L., 1974. Active reduction of lateral-line sensitivity in swimming dogfish. *Journal of Comparative Physiology*, **94**(A), 7–15.

It was postulated in previous papers that the role of the inhibitory function of the lateral-line efferent system was to protect the lateral-line organs during locomotory movements. This possibility was tested by comparing directly the relative sensitivity of the sense organs in swimming and in stationary dogfish. The total response of the anterior lateral-line nerve in decerebrate dogfish was recorded while the infraorbital lateral-line canals were stimulated and it was found that much of the response was attenuated or even abolished during vigorous body movements of the type made in 'escape reactions'. Part of this attenuation was shown to depend on the efferent neurons.

STEVENS, J. D. & BROWN, B. E., 1974. Occurrence of heavy metals in the blue shark *Prionace glauca* and selected pelagic fish in the N.E. Atlantic. *Marine Biology*, **26**, 287–93.

Copper, zinc, lead and cadmium levels were measured in tissues of 12 blue sharks (*Prionace glauca* L.) and in muscle of selected fish occurring in their diet. No concentration of metals from fish prey to sharks was observed on analysis of muscle-tissue samples. In sharks, the highest levels of zinc were recorded in the gonad and epigonal organ; copper values were more variable and no tissue showed a high concentration of this metal. In the liver and gonad plus epigonal tissue, concentrations of copper and zinc appeared to decrease with increasing body weight, whereas in muscle they were independent of size. 98 % of samples analysed for lead and 73 % for cadmium were below detectable limits for these metals, although individual sharks showed elevated levels in liver and gonad plus epigonal tissue.