THE MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM

THE ASSOCIATION was founded in 1884 to promote accurate researches leading to the advancement of zoological and botanical science and to an increase in our knowledge of the food, life, conditions and habits of British fishes. The work of the Association is controlled by a Council elected annually by its subscribing members.

Professor T. H. Huxley took the chair at the initial meeting held in the rooms of the Royal Society and was elected the first President. Among those present were Sir John Lubbock (afterwards Lord Avebury), Sir Joseph Hooker, Professor H. N. Moseley, Mr G. J. Romanes, and Sir E. Ray Lankester who, after Professor Huxley, was for many years president of the Association. It was decided that a laboratory should be established at Plymouth, where a rich and varied fauna is to be found.

The Plymouth Laboratory was opened in June 1888, and, since that date, a new library and further laboratory accommodation have been added.

The Association is maintained by subscriptions and donations from private members, universities, scientific societies and other public bodies; a generous annual grant has been made by the Fishmongers' Company since the Association began. Practical investigations upon matters connected with sea-fishing are carried on under the direction of the Council, and from the beginning a Government Grant in aid of the maintenance of the laboratory has been made; in recent years this grant has been greatly increased in view of the assistance which the Association has been able to render in fishery problems and in fundamental work on the environment of marine organisms. Accounts of the laboratory and aquarium and the scope of the researches will be found in Vol. XXVII (p. 761) and Vol. XXXI (p. 193) of this *Journal*.

The laboratory is open throughout the year and its work is carried out by a fully qualified research staff under the supervision of the Director. The names of the members of the staff will be found at the beginning of this number. Accommodation is available for British and foreign scientific workers who wish to carry out independent research in marine biology, physiology and other branches of science. Arrangements are made for courses for advanced students to be held at Easter, and marine animals and plants are supplied to educational institutions.

Work at sea is undertaken by two research vessels and by a motor boat, and these also collect the specimens required in the laboratory.

TERMS OF MEMBERSHIP

								£	s.	<i>d</i> .
Annual Member	rs .			•	p	er ann	um	I	I	0
Life Members				Composition fee			15	15	0	
Founders .								100	0	0
Governors .			•				•	500	0	0

Members of the Association have the following rights and privileges: they elect annually the Officers and Council; they receive the Journal of the Association free by post; they are admitted to view the laboratory at Plymouth, and may introduce friends with them; they have the first claim to rent a place in the laboratory for research, with use of tanks, boats, etc.; they have the privilege of occupying a table for one week in each year free of charge; and they have access to the books in the library at Plymouth.

All correspondence should be addressed to the Director, The Laboratory, Citadel Hill, Plymouth.

CONTENTS

	PAL-H
John H. Steele. Plant production on the Fladen ground	I
G. Y. Kennedy and H. G. Vevers. Porphyrin pigments in the tectibranch mollusc Akera bullata O. F. Müller	35
L. R. Fisher, S. K. Kon and S. Y. Thompson. Vitamin A and carotenoids in certain inver- tebrates. IV. Mollusca: Loricata, Lamellibranchiata, and Gastropoda	41
L. R. Fisher, S. K. Kon and S. Y. Thompson. Vitamin A and carotenoids in certain inver- tebrates. V. Mollusca: Cephalopoda	63
Ralph I. Smith. The ecology of the Tamar estuary. VII. Observations on the interstitial salinity of intertidal muds in the estuarine habitat of <i>Nereis diversicolor</i>	81
F. S. Russell. On a new scyphomedusa, Paraphyllina ransoni n.sp	105
J. Llewellyn. The host-specificity, micro-ecology, adhesive attitudes, and comparative mor- phology of some trematode gill parasites	113
J. S. Alexandrowicz. Receptor elements in the muscles of Leander serratus	129
A. J. Southward and J. M. Dodd. Studies on the biology of limpets. I. The late J. H. Orton's work on Patella	145
The late J. H. Orton, A. J. Southward and J. M. Dodd. Studies on the biology of limpets. II. The breeding of <i>Patella vulgata</i> L. in Britain	149
J. E. Shelbourne. The abnormal development of plaice embryos and larvae in marine aquaria	177
John H. Welsh. Neurohormones of invertebrates. I. Cardio-regulators of Cyprina and Buccinum	193
I. M. Thomas. The accumulation of radioactive iodine by Amphioxus	203
A. J. Southward and D. J. Crisp. Fluctuations in the distribution and abundance of inter- tidal barnacles	211
D. H. Cushing and I. D. Richardson. A record of plankton on the echo-sounder	231
Dorothy Ballantine and J. E. Morton. Filtering, feeding, and digestion in the lamelli- branch Lasaea rubra	241
J. E. Shelbourne. The effect of water conservation on the structure of marine fish embryos	
and larvae	275
Abstracts of Memoirs. Recording work done at the Plymouth Laboratory	287

CAMBRIDGE UNIVERSITY PRESS LONDON: BENTLEY HOUSE, N.W. 1 NEW YORK: 32 EAST 57TH STREET, 22 CANADA AND INDIA: MACMILLAN

•

Printed in Great Britain at the University Press, Cambridge (Brooke Crutchley, University Printer)