

# 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 to build a laboratory at Plymouth, where a rich and varied fauna is found.

The Plymouth Laboratory was opened in June 1888, and, since that date, considerable additions have been made to the buildings, including a library, lecture-hall, and extensive laboratory accommodation with up-to-date equipment. Additional sea-water reservoirs have also been built, and an aquarium, modernized in 1959, opened to the public.

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. 27 (p. 761), Vol. 39 (p. 391) and Vol. 43 (p. 281) 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 all branches of marine science. Arrangements are made for courses for advanced students, 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.	d.
Annual Members, receiving the Journal . . . . . per annum	3	0	0
Annual Members, without the Journal . . . . . per annum	1	1	0
Junior Members, receiving the Journal . . . . . per annum	1	1	0
Life Members. . . . . Composition fee	45	0	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 are entitled to receive the *Journal* of the Association at a much reduced rate; 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.

The Commissioners of Inland Revenue have approved the Association for the purposes of Section 16, Finance Act, 1958, and that the whole of the annual subscription paid by a member who qualifies for relief under the section will be allowable as a deduction from his emoluments assessable to income tax under Schedule E.

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

CONTENTS

	PAGE
F. S. RUSSELL. On a remarkable new scyphomedusan . . . . .	469
R. H. MILLAR and J. M. SCOTT. The larva of the oyster <i>Ostrea edulis</i> during starvation . . . . .	475
H. E. HINTON, F.R.S. Spiracular gills in the marine fly <i>Aphrosylus</i> and their relation to the respiratory horns of other Dolichopodidae . . . . .	485
G. R. FORSTER. A note on two rays lacking part of the snout . . . . .	499
M. J. DRING. Effects of daylength on growth and reproduction of the conchocelis-phase of <i>Porphyra tenera</i> . . . . .	501
D. J. CRISP, JULIE H. BAILEY and E. W. KNIGHT-JONES. The tube-worm <i>Spirorbis vitreus</i> and its distribution in Britain . . . . .	511
ANN TREVALLION. An investigation of detritus in Southampton Water . . . . .	523
P. A. EWINS and C. P. SPENCER. The annual cycle of nutrients in the Menai Straits . . . . .	533
Y. K. CHAU, L. CHUECAS and J. P. RILEY. The component combined amino acids of some marine phytoplankton species . . . . .	543
JEAN D. DOYLE and R. H. KAY. Some studies on the bioluminescence of the euphausiids <i>Meganyctiphanes norvegica</i> and <i>Thysanoessa raschii</i> . . . . .	555
* THOMAS H. CAREFOOT. Growth and nutrition of <i>Aplysia punctata</i> feeding on a variety of marine algae . . . . .	565
A. D. BONEY and E. B. WHITE. Observations on <i>Kylimia rosulata</i> from S.W. England . . . . .	591
D. J. HOBDEN. Iron metabolism in <i>Mytilus edulis</i> . I. Variation in total content and distribution . . . . .	597
DONALD S. McLUSKY. Some effects of salinity on the survival, moulting and growth of <i>Corophium volutator</i> [Amphipoda] . . . . .	607
A. E. BRAFIELD and G. CHAPMAN. Gametogenesis and breeding in a natural population of <i>Nereis virens</i> . . . . .	619
B. T. HEPPER. On the growth at moulting of lobsters ( <i>Homarus vulgaris</i> ) in Cornwall and Yorkshire . . . . .	629
ALLISON L. BURNETT, WILLIAM SINDELAR and NORMA DIEHL. An examination of polymorphism in the hydroid <i>Hydractinia echinata</i> . . . . .	645
CLYDE MANWELL and C. M. ANN BAKER. A study of detergent pollution by molecular methods: starch gel electrophoresis of a variety of enzymes and other proteins . . . . .	659
J. H. S. BLAXTER and M. PATTIE JONES. The development of the retina and retinomotor responses in the herring . . . . .	677
T. H. SIMPSON and C. S. WARDLE. A seasonal cycle in the testis of the spurdog, <i>Squalus acanthias</i> , and the sites of 3 $\beta$ -hydroxysteroid dehydrogenase activity . . . . .	699
E. E. BITTAR, P. C. CALDWELL and A. G. LOWE. The efflux of sodium from single crab muscle fibres . . . . .	709
J. McLACHLAN and M. PARKE. <i>Platymonas impellucida</i> sp.nov. from Puerto Rico . . . . .	723
ABSTRACTS OF MEMOIRS . . . . .	735
REPORT OF THE COUNCIL FOR 1966-67 . . . . .	737
BALANCE SHEET 1966-67 . . . . .	763

The subscription price of the Journal to non-members of the Association is £14 a volume of three parts, post free, or \$47.00 in U.S.A., payable in advance. Subscriptions may be sent to any bookseller or to the Cambridge University Press, and in U.S.A. to the Cambridge University Press American Branch.

CAMBRIDGE UNIVERSITY PRESS

BENTLEY HOUSE, 200 EUSTON ROAD, LONDON, N.W.1

AMERICAN BRANCH: 32 EAST 57TH STREET, NEW YORK, N.Y. 10022

Printed in Great Britain at the University Printing House, Cambridge