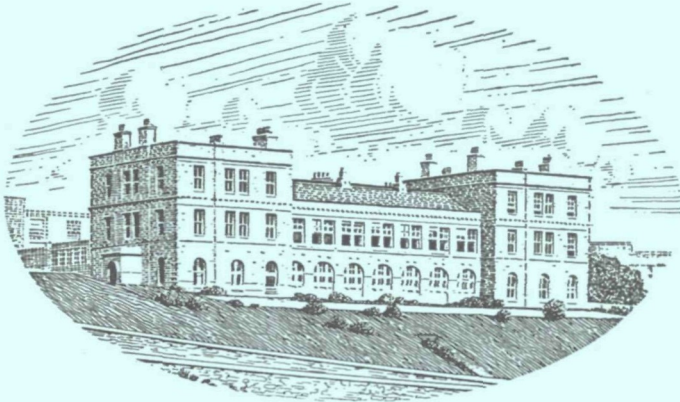


JOURNAL OF THE
MARINE BIOLOGICAL ASSOCIATION
OF THE UNITED KINGDOM



THE PLYMOUTH LABORATORY

VOLUME XXVII, No. 2
(issued April 1948)

CAMBRIDGE
AT THE UNIVERSITY PRESS
1948

Price Twenty-five Shillings net

MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM

PATRON

HIS MAJESTY THE KING

OFFICERS AND COUNCIL

President

Prof. J. GRAY, C.B.E., M.C., Sc.D., LL.D., F.R.S.

Vice-Presidents

Viscount ASTOR
Sir NICHOLAS WATERHOUSE, K.B.E.
The Earl of IVEAGH, C.B., C.M.G.
Sir SIDNEY HARMER, K.B.E., Sc.D., F.R.S.

Col. Sir EDWARD T. PEEL, K.B.E., D.S.O., M.C.
Prof. WALTER GARSTANG, D.Sc.
The Right Hon. TOM WILLIAMS, M.P.

COUNCIL

Elected Members

E. BALDWIN, Ph.D.
G. E. R. DEACON, D.Sc., F.R.S.
Admiral Sir JOHN EDGELL, K.B.E., C.B., F.R.S.
H. CARY GILSON
Prof. J. E. HARRIS, Ph.D.
C. F. HICKLING, Sc.D.
EDWARD HINDLE, Sc.D., F.R.S.
N. A. MACKINTOSH, D.Sc.

MORLEY H. NEALE
Prof. LILY NEWTON, Ph.D.
Prof. J. H. ORTON, D.Sc., F.R.S.
G. P. WELLS
R. S. WIMPENNY
Prof. C. M. YONGE, D.Sc., F.R.S.
Prof. J. Z. YOUNG, F.R.S.

Governors

G. P. BIDDER, Sc.D.
P. D. H. DUNN, C.M.G., O.B.E. (Ministry of Agriculture and Fisheries)
The Worshipful Company of Fishmongers:
The Prime Warden
BENJAMIN TRAVERS, A.F.C.
Major E. G. CHRISTIE-MILLER

Prof. A. C. HARDY, D.Sc., F.R.S. (Oxford University)
C. F. A. PANTIN, Sc.D., F.R.S. (Cambridge University)
Prof. H. GORDON JACKSON, D.Sc. (British Association)
H. G. MAURICE, C.B. (Zoological Society)
Prof. A. V. HILL, C.H., O.B.E., Sc.D., F.R.S. (Royal Society)

Hon. Treasurer: Major E. G. CHRISTIE-MILLER, 38 Hyde Park Street, London, W. 2

Secretary: F. S. RUSSELL, D.S.C., D.F.C., F.R.S.

SCIENTIFIC STAFF

Director: F. S. RUSSELL, D.S.C., D.F.C., B.A., F.R.S.

Assistant Director and Fishery Naturalist: E. FORD, A.R.C.S., D.I.C.

Head of Department of General Physiology:

W. R. G. ATKINS, O.B.E., Sc.D., F.R.I.C., F.Inst.P., F.R.S.

H. W. HARVEY, Sc.D., M.A., F.R.S. (*Hydrologist*)
G. A. STEVEN, B.Sc., F.R.S.E. (*Zoologist*)
D. P. WILSON, M.Sc., F.R.P.S. (*Zoologist*)
L. H. N. COOPER, D.Sc., F.R.I.C. (*Chemist*)

G. M. SPOONER, M.B.E., M.A. (*Zoologist*)
MARY W. PARKE, B.Sc., Ph.D. (*Botanist*)
P. G. CORBIN, B.A. (*Zoologist*)
H. G. VEVERS, M.B.E., M.A., F.Z.S. (*Bursar and Zoologist*)