

# THE BRITISH JOURNAL OF EXPERIMENTAL BIOLOGY

Edited by J. GRAY

WITH THE ASSISTANCE OF

F. A. E. CREWS

J. BARCROFT    J. B. S. HALDANE    J. S. HUXLEY    W. H. PEARSALL  
A. J. CLARK    L. T. HOGBEN    C. F. A. PANTIN    J. T. SAUNDERS

VOLUME V, No 4

PRICE 12s 6d net

JUNE 1928

## CONTENTS

- A. LIPSCHUTZ, New Developments in Ovarian Dynamics and the Law of Follicular Constancy.
- L. HOGBEN and J. VAN DER LINGEN, On the Occurrence of Haemoglobin and of Erythrocytes in the Perivisceral Fluid of a Holothurian.
- L. T. HOGBEN and L. MIRVISH, The Pigmentary Effector System V. The Nervous Control of Excitement Fallor in Reptiles.
- I. L. DEAN, M. E. SHAW and M. A. TAZELAAR, The Effect of a Temperature Gradient on the Early Development of the Frog.
- J. GRAY, The Effect of Dilution on the Activity of Spermatozoa.
- J. GRAY, The Senescence of Spermatozoa.
- J. GRAY, The Effect of Egg-secretions on the Activity of Spermatozoa.
- A. C. CHAUDHURI, The Iodine Content of the Thyroid of the Fowl with Reference to Age and Sex.
- A. S. PARKES, The Length of the Oestrous Cycle in the Unmated Normal Mouse: Records of One Thousand Cycles.
- A. W. GREENWOOD and A. C. CHAUDHURI, An Experimental Study on the Effect of Thyroxin upon Sexual Differentiation in the Fowl.
- A. D. HOBSON, The Effect of Electrolytes on the Muscles of the Fore-Gut of *Dytiscus marginalis*, with Special Reference to the Action of Potassium.

INDEX OF SUBJECTS. INDEX OF AUTHORS.

VOLUME VI, No. 1

PRICE 12s 6d net

SEPTEMBER, 1928

## CONTENTS

- J. G. H. FREW, A Technique for the Cultivation of Insect Tissues.
- J. T. CUNNINGHAM, On Ligature of the Vas Deferens in the Cat and Researches on the Efferent Ducts of the Testis in Cat, Rat and Mouse.
- J. GRAY, The Rôle of Water in the Evolution of the Terrestrial Vertebrates.
- F. C. STEWARD, An Experimental Examination of the Evidence for the Presence of Phosphatides in the Limiting Surface of the Living Protoplasm.
- H. M. EVANS and G. C. C. DAMANT, Observations on the Physiology of the Swim Bladder in Cyprinoid Fishes.
- J. R. BAKER, A New Type of Mammalian Intersexuality.
- A. D. HOBSON, The Action of Isotonic Salt Solutions on the Unfertilised Eggs of *Thalassema neptuni*.
- W. M. DAVIS, The Effect of Variation in Relative Humidity on Certain Species of Collembola.
- A. ZOOND and D. SLOME, The Relation of Electrolytes to the Cardiac Rhythm of *Palinurus (Jasus) lalandii* and *Octopus horridus*.

Subscription price 40s net per volume.

Published for The Company of Biologists Limited  
by THE CAMBRIDGE UNIVERSITY PRESS

LONDON: Fetter Lane, E.C. 4

THE  
QUARTERLY JOURNAL  
OF  
MICROSCOPICAL SCIENCE

EDITOR:  
EDWIN S. GOODRICH, M.A., F.R.S.

CONTENTS OF No. 284—NEW SERIES.

Part IV, Volume 71, April, 1928.

MEMOIRS

- Hermaphroditism in *Rhyscotus*, a Terrestrial Isopod. By H. G. JACKSON, D.Sc. (With 6 Text-figures.)
- The Roles of the Nurse-cells, Oocytes and Follicle-cells in Tenthredinid Oogenesis. By Professor A. D. PEACOCK, D.Sc., F.R.S.E., and R. A. R. GRESSON, B.Sc. (With Plates 40-2 and 1 Text-figure.)
- The Muscles of the adult Honey-bee (*Apis mellifera* L.) By G. D. MORISON, B.Sc.(Lond.). With 41 Text-figures.)
- Sex Studies on *Schistosoma japonicum*. By A. E. SEVERINGHAUS. With Plates 43-6 and 1 Text-figure.)

CONTENTS OF No. 285—NEW SERIES.

Part I, Volume 72, August, 1928.

MEMOIRS

- On the Development of Botrylloides, and its bearings on some Morphological Problems. By SYLVIA L. GARSTANG, M.A.(Oxon), and W. GARSTANG, M.A., D.Sc.(Oxon). With Plates 1-3 and 4 Text-figures.)
- The Morphology of the Tunicata, and its bearings on the Phylogeny of the Chordata. By W. GARSTANG, M.A., D.Sc. (With 13 Text-figures.)

CONTENTS OF No. 286—NEW SERIES.

Part II, Volume 72, October, 1928.

MEMOIRS

- Reconstruction of Daughter Nuclei and the individuality of Chromosomal Vesicles during Interkinesis. By J. McA. KATER. (With Plates 4 and 5.)
- Feeding Organs and Feeding Habits of *Autolytus Edwardsi* St. Joseph. Studies on the Syllidae, I.). By Yô K. OKADA, Naba, Hyogo-Ken (Japan). With 10 Text-figures.
- Experimental Studies on the Histology of the Mammalian Thymus. By RUTH DEANESLY, B.A., B.Sc. (With Plates 6-12.)
- Studies in the Origin of Yolk. I. Oogenesis of the Spider, *Crossopriza lyoni* Blackwall. By VISHVA NATH, M.Sc., Ph.D.(Cantab.). (With 23 Text-figures.)
- Yolk-Absorption in Loligo and the function of the embryonic liver and pancreas. By AD. PORTMANN, Ph.D.(Basle) and ANNA M. BIDDER, B.A.(Cambridge). (With Plates 13-19.)
- Reactions of *Gammarus* to Injury and Disease, with notes on some Microsporidial and Fungoid Diseases. By HELEN PIXELL GOODRICH, M.A.(Oxon), D.Sc.(Lond.). (With Plate 20.)

Subscription Price per Volume, £3 3s net.

Single Parts £1 1s net.

OXFORD UNIVERSITY PRESS  
AMEN HOUSE, LONDON, E.C. 4

PUBLICATIONS OF THE ASSOCIATION.

---

Journal of the Marine Biological Association  
of the United Kingdom.

OLD SERIES.—No. 1, 1887. No. 2, 1888.

NEW SERIES.—Volumes I to XV. 1889–1928.

Separate numbers (generally 4 to one volume), in wrappers, from 1s. to 12s. 6d. each,  
according to size.

---

---

THE DINOFLAGELLATES OF  
NORTHERN SEAS

BY

M. V. LEBOUR, D.Sc., F.Z.S.

1925. Price 12s. 6d. net.

---

---

PLYMOUTH AQUARIUM GUIDE BOOK

BY

E. W. SEXTON

WITH ILLUSTRATIONS BY

L. R. BRIGHTWELL

AN ACCOUNT IN POPULAR LANGUAGE OF FISHES  
AND OTHER ANIMALS LIVING IN THE SEA.

Price 1s. Post-free, 1s. 3d.

---

ALL PUBLICATIONS MAY BE OBTAINED FROM THE  
DIRECTOR, MARINE BIOLOGICAL LABORATORY, PLYMOUTH.

---

London Agents: Messrs. DULAU & Co., LTD., 32 Old Bond St., Piccadilly. W. 1.

# CONTENTS OF NEW SERIES, Vol. XV., No. 3.

	PAGE
1. THE LABORATORY OF THE MARINE BIOLOGICAL ASSOCIATION AT PLYMOUTH. BY E. J. ALLEN and H. W. HARVEY. <i>With Figures 1 to 7 and Plans I. to VII.</i>	735
2. LIST OF PUBLICATIONS RECORDING THE RESULTS OF RESEARCHES CARRIED OUT UNDER THE AUSPICES OF THE MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM IN THEIR LABORATORY AT PLYMOUTH OR ON THE NORTH SEA COAST FROM 1886-1927	753
3. THE VERTICAL DISTRIBUTION OF MARINE MACROPLANKTON. VIII. FURTHER OBSERVATIONS ON THE DIURNAL BEHAVIOUR OF THE PELAGIC YOUNG OF TELEOSTEAN FISHES IN THE PLYMOUTH AREA. BY F. S. RUSSELL. <i>With 6 Figures in the Text</i>	829
4. OBSERVATIONS ON <i>Patella vulgata</i> . PART I. SEX-PHENOMENA, BREEDING AND SHELL-GROWTH. BY J. H. ORTON	851
5. OBSERVATIONS ON <i>Patella vulgata</i> . PART II. RATE OF GROWTH OF SHELL. BY J. H. ORTON	863

## NOTICE.

The Council of the Marine Biological Association wish it to be understood that they do not accept responsibility for statements published in this Journal excepting when those statements are contained in an official report of the Council.

### TERMS OF MEMBERSHIP.

		£	s.	d.
Annual Members . . . . . per annum		1	1	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, &c.; and have access to the books in the Library at Plymouth.

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