THE IOURNAL OF PHYSIOLOGY

MARCH 1963. VOL. 165, NO. 3

ECCLES, ROSAMOND M. Orthodromic activation of single ganglion cells.

ECCLES, ROSAMOND M., SHEALY, C. N. and WILLIS, W. D. Patterns of innervation of kitten motoneurones.

ECCLES, ROSAMOND M. and WILLIS, W. D. Presynaptic inhibition of the monosynaptic reflex pathway in kittens.

Krnjević, K., Mitchell, J. F. and Szerb, J. C. Determination of iontophoretic release of acetylcholine from micropipettes

ECHAVE LLANOS, J. M. and PIEZZI, R. S. Twenty-four hour rhythm in the mitotic activity of normal mammary epithelium on normal and inverted lighting regi-

HUBBARD, S. J. The electrical constants and the component conductances of frog skeletal muscle after denervation.

KENNARD, D. W. The nervous regulation of the sweating apparatus of the human skin, and emotive sweating in thermal sweating areas.

Beilharz, Sigrid and Kay, R. N. B. The effects of ruminal and plasma sodium concentrations on the sodium appetite of sheep.

GAZE, R. M., JACOBSON, M. and SZÉKELY, G. The retinotectal projection in Xenopus with compound eyes.

DOLLERY, C. T., HILL, D. W. and HODGE, J. V. The response of normal retinal blood vessels to angiotensin and noradenaline.

BROWN-GRANT, K. and TAYLOR, W. The relation between structure and the concentration of iodide by the submandibular glands of mice and hamsters.

BROWN-GRANT, K. Failure to demonstrate a concentration of iodide by the submandibular gland of the rat.

DOUGLAS, W. W. and POISNER, A. M. The influence of calcium on the secretory response of the submaxillary gland to acetylcholine or to noradrenaline.

LITTLE, J. R. and ROBINSON, J. R. Composition and 'functional distension' of the rat's renal cortex.

DEE, ELISABETH and KERNAN, R. P. Energetics of sodium

'functional distension' of the rat's renal cortex.

Dee, Elisabeth and Kernan, R. P. Energetics of sodium transport in Rana pipiens.

Hubel, D. H. and Wiesel, T. N. Shape and arrangement of columns in cat's striate cortex.

McCance, R. A. and Widdenson, Elsie M. The effect of administering sodium chloride, sodium bicarbonate and potassium bicarbonate to newly born piglets.

Csapo, I. A. and Kuriyama, H. A. Effects of ions and drugs on cell membrane activity and tension in the postpartum rat myometrium.

postpartum rat myometrium.

Subscription price 80s. net per volume of 3 parts

CAMBRIDGE UNIVERSITY PRESS

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

Iournal of the Marine **Biological** Association of the United Kingdom

Orders may be sent to your own bookseller or to the publishers

Cambridge University Press Bentley House 200 Euston Road London, N.W. I

VOL. XLIII, NO. I. FEBRUARY 1963. 75s. net

SOUTHWARD. The distribution of some plankton animals in the English Channel and approaches. III. Theories about long-term biological changes, including fish. A. I. SOUTHWARD.

QUENTIN BONE. Some observations upon the peripheral nervous system of the hagfish, Myxine glutinosa L.

JOHN BINYON and J. G. E. LEWIS. Physiological adaptations by two species of centipede (Chilopoda: Geophilomorpha) to life on the shore.

A. J. SOUTHWARD and E. C. SOUTHWARD. Notes on the biology of some Pogono-phore.

E. J. DENTON and T. I. SHAW. The visual pigments of some deep-sea elasmo-

branchs.
R. H. MILLAR. The development and larva of Styela coriacea (Alder and Hancock).
F. A. J. ARMSTRONG and E. I. BUTLER. Chemical changes in sea water off Plymouth

F. A. J. ARMSTRONG and E. I. BUTLER. Chemical changes in sea water on Flyndenin 1961.
P. J. S. BOADEN. The interstitial fauna of some North Wales beaches.
WOLFGANG WIESER. Adaptations of two intertidal isopods. II. Comparison between Campecopea hirsuta and Naesa bidentata (Sphaeromatidae).
R. F. H. FREEMAN. Experimental infection of two species of wrasse with the digenean Proclovees subtenuis.
V. P. AGRAWAL. Studies on the physiology of digestion in Corophium volutator.
JOANNA M. KAIN. Aspects of the biology of Laminaria hyperborea. II. Age, weight and length.

JOANNA M. KAIN. Aspects of the biology of Laminaria hyperborea. II. Age, weight and length.

JOHN E. HARRIS. The role of endogenous rhythms in vertical migration.

SHAKUNT PATEL and C. P. SPENCER. The oxidation of sulphide by the haem compounds from the blood of Arenicola marina L.

T. B. BAGENAL. The fecundity of plaice from the Bay of Biscay.

H. BARNES, MARGARET BARNES and D. M. FINLAYSON. The metabolism during starvation of Balanus balanoides.

H. BARNES, MARGARET BARNES and D. M. FINLAYSON. The seasonal changes in body weight, biochemical composition, and oxygen uptake of two common boreao-arctic cirripedes, Balanus balanoides and B. balanus.

T. B. BAGENAL. The fecundity of Icelandic plaice.

I. MANTON, K. OATES and M. PARKE. Observations on the fine structure of the Pyramimonas stage of Halosphaera and preliminary observations on three species of Pyramimonas.

of Pyramimonas.

P. J. S. Boaden. Behaviour and distribution of the archiannelid Trilobodrilus

heideri Remane.

P. G. W. Jones and C. P. Spencer. Comparison of several methods of determining inorganic phosphate in sea water.

Abstracts of Memoirs.

BOOK REVIEWS.

HEREDITY AND HUMAN LIFE

By Hampton L. Carson

Professor Carson establishes the genetic and scientific bases for human brotherhood, and the genetic uniqueness of the individual, by stressing the common genetic "pool" or heritage shared by all races. He explains the mechanisms of genetics and evolution, DNA, combination and recombination of genes, mutation, natural selection, and eugenics.

To be published May 27

224 pages

Illus.

\$ 5.00

THE HEMOGLOBINS IN GENETICS AND EVOLUTION

By Vernon M. Ingram

The main purpose of this book is to illustrate certain basic aspects of genetics and evolution through specific case studies of hemoglobins and to further understand their role in mammalian biochemical genetics.

To be published May 27

192 pages

Illus.

\$ 5.00

CONTROL THEORY AND BIOLOGICAL SYSTEMS

By Fred S. Grodins

This work is concerned with the principles of control systems as they are applied to biological systems. The major theme is the similarity of the general approach in all systems, regardless of the form the equations may take in a particular instance.

To be published July 22

300 pages

\$6.00

NEUROENDOCRINOLOGY

By Ernst Scharrer and Berta Scharrer

Traditionally regarded as separate disciplines, neurology and endocrinology are here shown in their interrelationships, synthesizing the existing data concerning their integrated functions. This work presents a new viewpoint which has important implications for psychology and medicine, as well as for physiology, biology, and neurology.

To be published July 22

512 pages

Illus.

\$10.00

RADIATION-INDUCED CHROMOSOME ABERRATIONS

Edited by Sheldon Wolff

An increasing number of biologists, particularly cell biologists, are doing research in the field of Radiation biology. Based on a symposium by the National Academy of Sciences and National Research Council in 1962, this volume deals specifically with the biochemical and biophysical importance of radiation-induced aberrations in chromosomes.

To be published July 22

300 pages

\$7.50

THE ORIGIN OF ADAPTATIONS

By Verne Grant

This volume deals with the Causal Theory of Organic Evolution which provides an intellectual framework for our present knowledge of the evolutionary process in higher animals and plants.

To be published July 22

704 pages

Illus.

\$12.50



COLUMBIA UNIVERSITY PRESS 2960 Broadway, New York 27, N.Y.

ANIMAL ECOLOGY

Aims and Methods

A. Macfadyen, M.A.

Senior Lecturer in Zoology, University College of Swansea

Second Edition

Since the appearance of the first edition, much has been achieved in synthesizing the results of separate enquiries in Ecology and those trends are reflected in this new edition. This has involved a rearrangement of most of the chapters in the second and third parts of the book, those on the Ecology of Single Species Populations and the Ecology of Animal Communities. A new chapter on ecological aspects of metabolism has been added to Part I, The Ecology of Individuals. Whilst primarily intended for graduates this book is used as an undergraduate textbook and in consequence more illustrative examples are included and the number of line drawings has been doubled. 42s, net

PITMAN

PARKER ST., KINGSWAY LONDON, WC2

THE QUARTERLY JOURNAL OF MICROSCOPICAL SCIENCE

Joint Editors:

JOHN R. BAKER, D.Sc., F.R.S., H. G. CALLAN, D.Sc.

Contents of Volume 103, Part 4, December 1962

KAHN, J. The nucleolar organizer in the mitotic chromosome complement of Xenopus laevis.

GURAYA, S. S. The structure and function of the so-called yolk-nucleus in the oogenesis of birds.

SAVAGE, A. A. The development of the Malpighian tubules of Carausius morosus (Orthoptera).

SIMS, R. T. The action of phenyl-thiourea on melanogenesis in Xenopus laevis.

CASSELMAN, W. G. B. and SCHÖNBAUM, E. Cytological evidence of adrenocortical activity in vitro.

LEVENE, C. and FENG, P. A study of the fixation of the granular elements in rat pancreas. HEATH, I. D. Observations on a highly specific method for the histochemical detection of sul-

phated mucopolysaccharides, and its possible mechanisms.

Goldstein, D. J. Ionic and non-ionic bonds in staining, with special reference to the action of

urea and sodium chloride on the staining of elastic fibres and glycogen.

BAKER, J. R. Experiments on the action of mordants. 2. Aluminium-haematein.

McKay, R. B. An investigation of the anomalous staining of chromatin by the acid dyes, methyl blue and aniline blue.

HORRIDGE, G. A. and MACKAY, B. Naked axons and symmetrical synapses in coelenterates.

RÖHLICH, P. and TÖRÖK, L. J. The effect of light and darkness on the fine structure of the retinal clubs in *Dendrocoelum lacteum*.

WILSON, R. S. The structure of the dragline control valves in the garden spider.

WILSON, R. S. The control of dragline spinning in the garden spider.

Subscription Price per Volume of 4 Parts £4. 4s. Single Parts 30s. net OXFORD UNIVERSITY PRESS LONDON E.C. 4

HATFIELD COLLEGE OF TECHNOLOGY DEPARTMENT OF SCIENCE

HEAD OF DEPARTMENT: DR R. F. ROBBINS, B.Sc., F.R.I.C.

A ONE-DAY SYMPOSIUM THURSDAY, 16TH MAY, 1963

THE CHEMISTRY AND MODE OF ACTION OF FUNGICIDES

Papers will be read by

PROF. P. W. BRIAN, F.R.S.

DR P. W. MUGGLETON

DR D. WOODCOCK

The Symposium is envisaged as being of interest to chemists and biologists in Universities, Colleges and in industry who wish to become familiar with the latest ideas about fungicidal chemicals both in agriculture and medicine.

Fee (to include coffee, lunch and tea) £2. 0s. 0d.

Further enquiries may be addressed to Dr R. J. W. Cremlyn, The Department of Science, Hatfield College of Technology, Roe Green, Hatfield, Herts.

FULL PARTICULARS OF THE

JOURNALS

PUBLISHED BY THE

CAMBRIDGE UNIVERSITY PRESS

MAY BE HAD FROM

THE MANAGER, CAMBRIDGE UNIVERSITY PRESS
BENTLEY HOUSE, 200 EUSTON ROAD
LONDON, N.W.1