PARASITOLOGY

EDITED BY

GEORGE H. F. NUTTALL, F.R.S. Quick Professor of Biology in the University of Cambridge

> ASSISTED BY EDWARD HINDLE, PH.D.



CAMBRIDGE UNIVERSITY PRESS

C. F. CLAY, MANAGEB LONDON: FETTER LANE, E.C. 4 EDINBURGH: 100, PRINCES STREET ALSO

H. K. LEWIS AND CO., LTD., 136, GOWER STREET, LONDON, W.C. 1 WILLIAM WEBLEY AND SON, 28, ESSEX STREET, STRAND, LONDON, W.C. 2 CHICAGO: THE UNIVERSITY OF CHICAGO PRESS BOMBAY, CALCUTTA AND MADRAS : MACMILLAN & CO., LTD. TOBONTO: J. M. DENT AND SONS, LTD. TOKYO: THE MABUZEN-KABUSHIKI-KAISHA

Price Ten Shillings net

[Issued July 27, 1917]

CAMBRIDGE UNIVERSITY PRESS

Crown 8vo. pp. xxii + 328. Price 5s net.

SCIENCE AND THE NATION

Essays by Cambridge Graduates

with an Introduction by the

Right Hon. Lord Moulton, K.C.B., F.R.S.

Edited by A. C. SEWARD, F.R.S., Master of Downing College, Cambridge.

It is the aim of the authors of these essays to present the results of experience in scientific investigation, to illustrate by concrete examples the sources of progress in a few departments of knowledge and so make clear to the layman the position of research as a factor in national prosperity. Each Essay has been written by some one who, by lifelong study and practice of the Branch of Science to which it relates, has qualified himself to give a just and authoritative description of the work that has already been done as well as of the bearing of that work on the present and its promise for the future.

CONTENTS

INTRODUCTION. By the Right Hon. LORD MOULTON, K.C.B., F.R.S.

THE NATIONAL IMPORTANCE OF CHEMISTRY. By W. J. POPE, F.R.S.

PHYSICAL RESEARCH AND THE WAY OF ITS APPLICATION. By W. H. BRAGG, F.R.S.

THE MODERN SCIENCE OF METALS, PURE AND APPLIED. By W. ROSENHAIN, F.R.S.

MATHEMATICS IN RELATION TO PURE AND APPLIED SCIENCE. By E. W. HOBSON, F.R.S.

THE SCIENCE OF BOTANY AND THE ART OF INTENSIVE CULTIVATION. By F. W. KEEBLE, F.R.S.

SCIENCE IN FORESTRY. By W. DAWSON, M.A.

SYSTEMATIZED PLANT-BREEDING. By R. H. BIFFEN, F.R.S.

AN AGRICULTURAL WAR PROBLEM. By T. B. WOOD, M.A.

GEOLOGY AS AN ECONOMIC SCIENCE. By HERBERT H. THOMAS, Sc.D.

MEDICINE AND EXPERIMENTAL SCIENCE. By F. GOWLAND HOPKINS, F.R.S.

THE "SPECIFIC TREATMENT" OF DISEASE. By G. H. F. NUTTALL, F.R.S.

FLIES AND DISEASE. By G. S. GRAHAM-SMITH, M.D.

THE GOVERNMENT OF SUBJECT PEOPLES. By W. H. R. RIVERS, F.R.S.

"In essay after essay—from the impressive opening one on 'The National Importance of Chemistry' to that on 'The Government of Subject Peoples,' which concludes the series—we have a recital of the achievements of science in its various branches, and it is brought home to us in the most convincing manner how the great discoveries and inventions—coal-tar dyes, X-rays, wireless telegraphy, the production of a rust-resisting wheat of large yielding capacity, the modern treatment of disease—have all been rendered possible and are all the outcome of a 'steady pursuit of knowledge by rational and intelligent research"."—New Statesman

Cambridge University Press, Fetter Lane, London, E.C. 4 C. F. CLAY, Manager

PARASITOLOGY

https://doi.org/10.1017/S0031182000006144 Published online by Cambridge University Press

CAMBRIDGE UNIVERSITY PRESS

C. F. CLAY, MANAGER

LONDON Fetter Lane, E.C. 4



EDINBURGH 100 Princes Street

LONDON : H. K. LEWIS AND CO., Ltd., 136 Gower Street, W.C. 1 LONDON : WILLIAM WESLEY AND SON, 28 Essex Street, Strand, W.C. 2 CHICAGO : THE UNIVERSITY OF CHICAGO PRESS BOMBAY, CALCUTTA, MADRAS : MACMILLAN AND CO., Ltd. TORONTO : J. M. DENT AND SONS, Ltd. TOKYO : THE MARUZEN-KABUSHIKI-KAISHA

All rights reserved

PARASITOLOGY

EDITED BY

GEORGE H. F. NUTTALL, F.R.S. Quick Professor of Biology in the University of Cambridge

ASSISTED BY

EDWARD HINDLE, PH.D.

Volume IX 1916-17

Cambridge : at the University Press 1917

CONTENTS

No. 1 (October)

	HARRISON, LAUNCEI	от. The Genera	and Species of	f Mallophaga	• .	1
--	-------------------	----------------	----------------	--------------	-----	---

PAGE

No. 2 (FEBRUARY)

NICOLL, WILLIAM. Observations on the Influence of Salt and other Agents in modifying the Larval Development of the Hook- worms: Ankylostoma duodenale and Necator americanus.	155
WATERSTON, JAMES. Notes on the Morphology of Chalcidoidea bred from Calliphora. (With 2 Text-figures)	190
WATERSTON, JAMES. A new African Louse (Polyplax calva n. sp.) from Cricetomys. (With' 2 Text-figures).	199
BOULENGER, CHARLES L. Sclerostome Parasites of the Horse in England. II. New Species of the Genus Cylichnostomum. (With 5 Text-figures)	203
STEWART, F. H. On the Development of Ascaris lumbricoides Lin. and Ascaris suilla Duj. in the Rat and Mouse. (With Plate I and 9 Text-figures)	213
BACOT, A. A Contribution to the Bionomics of <i>Pediculus humanus</i> (vestimenti) and <i>Pediculus capitis</i> . (With 4 Text-figures).	228
HINDLE, E. Notes on the Biology of <i>Pediculus humanus</i> . (With a Foreword by Geo. H. F. Nuttall, F.R.S.)	259
SWELLENGREBEL, N. H. and WINOTO, RADEN MAS MANGKOE. The Life History of Amoebae of the <i>Limax</i> Type in the Human	0.00
Intestine. (With Plate II and 1 Text-figure)	$\frac{266}{274}$

Contents

						P.
NUTTALL, GEORGE H. F.	Studies on Pediculus.	T.	The o	copulat	orv	
,	rocess of copulation in				•	
	-					,
(With Plates III and	l IV and 12 Text-figure	es).	•	•	•	:

No. 3 (MAY)

Keilin, D.	Recherches sur	les Antho	myides à Larv	es Carnivores	5.	
(Avec l	es planches V à	XV et XLI	figures dans le	e texte) .	•	3

No. 4 (July)

SWELLENGREBEL, N. H. Observations on Blastocystis hominis. (With	
Plates XVI and XVII)	4
SKRJABIN, K. I. Sur quelques Nématodes des Oiseaux de la Russie. (Avec les Planches XVIII et XIX et une figure dans le texte).	4
ATKIN, E. E. and BACOT, A. The Relation between the hatching of the Eggs and the Development of the Larvae of Stegomyia fasciata (Aëdes calopus), and the presence of Bacteria and Yeasts	4 {
GOODEY, T. and WELLINGS, A. W. Observations on <i>Entamoeba</i> gingivalis from the Human Mouth, with a Note on the Tricho- monad Flagellate <i>Tetratrichomonas buccalis</i> n. sp. (With Plates	
XX-XXII)	5:
YOSHIDA, SADAO. Some Cestodes from Japanese Selachians. Includ-	
ing Five New Species. (With Plate XXIII and 4 Text-figures)	5 €
SCOTT, HUGH. Notes on Nycteribiidae, with Descriptions of Two	
New Genera. (With Plate XXIV)	59
INDEX OF AUTHORS	61
INDEX OF SUBJECTS	61