# PARASITOLOGY

#### EDITED BY

#### GEORGE H. F. NUTTALL, M.D., Ph.D., Sc.D., LL.D., F.R.S.

Quick Professor of Biology and Director of the Molteno Institute for Research in Parasitology in the University of Cambridge

ASSISTED BY

#### D. KEILIN, Sc.D., F.R.S.

University Lecturer in Parasitology, Cambridge



#### CAMBRIDGE UNIVERSITY PRESS

LONDON: FETTER LANE, E.C. 4

ALSO

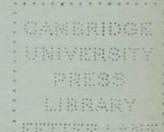
H. K. LEWIS AND CO., LTD., 136, GOWER STREET, LONDON, W.C. 1
WHELDON AND WESLEY, LTD., 2-4, ARTHUR STREET, NEW OXFORD STREET, LONDON, W.C. 2
CHICAGO: THE UNIVERSITY OF CHICAGO PRESS
(AGENT FOR THE UNITED STATES)
BOMBAY, CALCUTTA, MADRAS: MACMILLAN & CO., LTD.

TOKYO; THE MARUZEN-KABUSHIKI-KAISHA

Fifteen Shillings net

[Issued 12 December 1928]

PRINTED IN GREAT BRITAIN



# Cambridge University Press

#### TICKS. A MONOGRAPH OF THE IXODOIDEA

By G. H. F. NUTTALL, F.R.S., C. WARBURTON, and L. E. ROBINSON

#### Part IV. The Genus Amblyomma

By L. E. ROBINSON, PH.D. (CANTAB.). With a frontispiece, 7 plates (2 in colours), and 130 figures, 116 being original Royal 8vo. 20s. net

#### THE TRANSMUTATION OF BACTERIA

By S. GURNEY-DIXON, M.A., M.D., M.R.C.S., L.R.C.P.

Demy 8vo. 12s. net

#### INSECT PESTS AND FUNGUS DISEASES OF FRUIT AND HOPS

A complete manual for growers. By Percival J. Fryer, F.L.C., F.C.s. With 24 plates (20 in colour and 4 in black and white) and 305 original photographs and diagrams

\*\*Crown 8vo., 45s, net\*\*

#### . .

#### FUNGOID AND INSECT PESTS OF THE FARM

By F. R. Petherbridge, M.A., Biological Adviser, School of Agriculture, Cambridge. Second Edition. With 54 illustrations

\*\*Large crown 8vo. 6s. net\*\*

(CAMBRIDGE FARM INSTITUTE SERIES)

#### BRITISH RUST FUNGI (UREDINALES)

Their Biology and Classification. By W. B. GROVE, M.A. With 290 figures

Demy Svo. 21s. net

CAMBRIDGE UNIVERSITY PRESS, FETTER LANE, LONDON, E.C. 4

# The University of Chicago Press

THE NEWER KNOWLEDGE OF BACTERIOLOGY AND IMMUNOLOGY.

Edited by E. O. JORDAN and I. S. FALK.

758, net

A collection of late researches in the field of bacteriology prepared by eighty leading research men in the field.

FOOD POISONING. By EDWIN O. JORDAN.

6s. 3d. net

A clear summary of our present knowledge of poisoning through foods.

## LABORATORY OUTLINES IN BACTERIOLOGY AND IMMUNOLOGY. By JOHN F. NORTON and I. S. FALK.

Consists of exercises which are designed to acquaint the reader with a variety of the best methods, to give him practice in working with different groups of bacteria, and to illustrate types of immunologic phenomena.

THE ANTIQUITY OF DISEASE. By R. L. MOODIE.

7s. 6d. net

A picture of prehistoric pathological conditions.

AGENTS IN GREAT BRITAIN AND THE BRITISH EMPIRE (EXCEPT CANADA)

CAMBRIDGE UNIVERSITY PRESS, FETTER LANE, LONDON, E.C. 4

## **PARASITOLOGY**

#### CAMBRIDGE UNIVERSITY PRESS

LONDON: FETTER LANE, E.C.4



H. K. LEWIS & CO., LTD., 136, GOWER STREET, LONDON, W.C. I WHELDON & WESLEY, LTD., 2-4, ARTHUR STREET, NEW OXFORD STREET, LONDON, W.C. 2

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS (Agents for the United States)

BOMBAY, CALCUTTA, MADRAS: MACMILLAN & CO., LTD.

TOKYO: THE MARUZEN-KABUSHIKI-KAISHA

All rights reserved

# **PARASITOLOGY**

#### EDITED BY

GEORGE H. F. NUTTALL, F.R.S.

QUICK PROFESSOR OF BIOLOGY AND DIRECTOR OF THE MOLTENO INSTITUTE
FOR RESEARCH IN PARASITOLOGY IN THE UNIVERSITY OF CAMBRIDGE

ASSISTED BY

D. KEILIN, F.R.S.

**VOLUME XX 1928** 

CAMBRIDGE
AT THE UNIVERSITY PRESS
1928

 PRINTED IN GREAT BRITAIN

### CONTENTS

### No. 1 (APRIL)

	PAG1
Van Cleave, H. J. Acanthocephala from China. I. New Species and New Genera from Chinese Fishes. (With 9 Text-figures).	1
ROBERTSON, MURIEL. Notes on <i>Heteromita</i> (Protozoa, Flagellata). (With Plate I, containing Figs. 1–17)	10
LEIGH-SHARPE, W. HAROLD. Brachiella obesa, a Parasitic Copepod of Trigla cuculus, with a Description of the Male. (With 4 Text-figures)	25
BOULENGER, C. L. Report on a Collection of Parasitic Nematodes, mainly from Egypt. Part V. Filarioidea. (With 51 Text-figures)	32
WOODLAND, W. N. F. On a New Genus of Avitellinine Tapeworms from Ruminants in East Africa. (With Plates II and III, including Figs. 1–20)	56
Jameson, A. Pringle. The Action of Certain Drugs and Chemicals on Balantidium coli Malm. in Cultures	66
TATE, P. Notes on the Genera Ectomyces and Termitaria, Fungi Parasitic on Termites	77
LEIGH-SHARPE, W. HAROLD. The Genus <i>Pennella</i> (Copepoda) as represented by the Collection in the British Museum. (With 7 Text-figures)	79
THOMPSON, W. R. A Contribution to the Study of Biological Control and Parasite Introduction in Continental Areas. (With 5 Text-figures)	90
WRIGHT, W. REES. Note on the Locomotion of the Redia of Fasciola  hepatica	113
HENDERSON, J. R. A Note on some External Characters of Larvae of Xenopsylla cheopis. (With 4 Text-figures)	115
BAYON, H. P. On the Influence of Spirochaetal Infection on Rous- Sarcoma in the Fowl	119

NO. 2 (JULY)
THOMPSON, W. R. A Contribution to the Study of the Dipterous Parasites of the European Earwig (Forficula auricularia L.). (With Plates IV-IX and 4 Text-figures)
Myers, L. Emery. The American Swallow Bug, Oeciacus vicarius Horvath (Hemiptera, Cimicidae). (With Plates X-XIII)
MATHESON, ROBERT. Notes on a Small Collection of Bat Ecto- Parasites
WARBURTON, CECIL. Ornithomyia avicularia (Diptera Hippoboscidae) as the Carrier of Mallophaga, with some Remarks on Phoresy in Insects. (With 1 Figure)
LEIGH-SHARPE, W. HAROLD. The Genera Sphyrion and Basanistes (Copepoda) as represented by the Collection in the British Museum. (With 4 Text-figures)
DAUBNEY, R. and CARMAN, J. A. Helminthic Infestations of Natives in the Kenya Highlands
LAIDLAW, P. P., DOBELL, CLIFFORD and BISHOP, ANN. Further Experiments on the Action of Emetine in Cultures of Entamoeba histolytica
Ferris, G. F. The Mallophagan Family Menoponidae. Part III. (With 3 Text-figures)
WARBURTON, CECIL. The Harvest Bug. An Account of the Present State of our Knowledge of the Larval Thrombidiid Mites attacking Man. (With 2 Text-figures)
No. 3 (October)
SVENSSON, RUTH M. A Survey of Human Intestinal Protozoa in Sweden and Finland. (A Preliminary Report)
CAWSTON, F. G. Bilharzia Infection in South Africa. (With a Map)
JOBLING, B. The Structure of the Head and Mouth-parts in the Nycteribiidae (Diptera Pupipara). (With Plates XIV-XVI and 4 Text-figures)
LEIGH-SHARPE, W. HAROLD. The Genera Charopinus and Lernaeo- podina (Copepoda) as represented by the Collection in the British Museum. (With 6 Text-figures)
BAYLIS, H. A. On a Collection of Nematodes from Nigerian Mammals (chiefly Rodents). (With 25 Text-figures)

Contents	vii
	PAGE
WOODLAND, W. N. F. On some New Avian Cestodes from the Sudan. (With Plates XVII and XVIII)	305
MEGGITT, F. J. Report on a Collection of Cestoda, mainly from Egypt. Part III. Cyclophyllidea (Conclusion): Tetraphyllidea. (With Plate XIX)	315
SKRJABIN, PROF. K. I. and Petrow, A. M. A Description of the Genus <i>Crenosoma</i> Molin, 1861 (Metastrongylidae, Nematoda). (With 15 Text-figures)	329
PERKINS, MICHAEL. A Review of the Telorchimae, a Group of Distomid Trematodes. (With Plates XX and XXI)	336
No. 4 (DECEMBER)	
DOBELL, CLIFFORD. Researches on the Intestinal Protozoa of Monkeys and Man. I. General Introduction, II. Description of the whole Life-History of <i>Entamoeba histolytica</i> in Cultures. (With Plates XXII–XXV and 2 Text-figures)	357
Hughes, R. Chester. Studies on the Trematode Family Strigeidae (Holostomidae). No. XII. Agamodistomum la-ruei sp. nov. (With 3 Text-figures)	413
LEIGH-SHARPE, W. HAROLD. Degeneracy in Parasitic Copepoda in Relation to the Distribution of their Hosts in Time	421
Duke, H. Lyndhurst. Immunological Studies of Trypanosoma gambiense and T. rhodesiense	427
ELTON, CHARLES and BUCKLAND, FRANK. The Gape-worm (Syngamus trachea Montagu) in Rooks (Corvus frugilegus L.)	448
Index of Authors	451
Index of Subjects	453