### PARASITOLOGY

EDITED BY

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

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

E. HINDLE, Ph.D., Sc.D.



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

CHICAGO: The University of Chicago Press (Agents for the United States)

BOMBAY, CALGUTTA, MADBAS: Macmillan TOKYO: Maruzen Company, Ltd.

All rights reserved

Eighteen Shillings and Sixpence net

Issued 25 January, 1933.

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.i.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. Pethereridge, 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 8vo. 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.

558. net

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

FOOD POISONING. (Revised edition.) By EDWIN O. JORDAN.

14s. net
A clear summary of our present knowledge of poisoning through foods.

ABORATORY OUTLINES IN BACTERIOLOGY AND IMMUNOLOGY

JOHN F. NORTON and I. S. FALK.

98. 6d. net

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 EPIDEMIOLOGY AND CONTROL OF MALARIA IN PALESTINE. By 1. J. KLigher. 27s. 6d. net

A complete account of successful control measures.

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

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

### **PARASITOLOGY**

## LONDON CAMBRIDGE UNIVERSITY PRESS

FETTER LANE, E.C. 4



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

BOMBAY, CALCUTTA, MADRAS: MACMILLAN AND CO., Ltd. TOKYO: MARUZEN COMPANY, Ltd.

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.

AND

E. HINDLE, Ph.D., Sc.D.

**VOLUME XXIV 1932** 

CAMBRIDGE
AT THE UNIVERSITY PRESS
1932



The services of the services o

PRINTED IN GREAT BRITAIN

### CONTENTS

No. 1 (March)	
COWDRY, E. V. and HAM, A. W. Studies on East Coast Fever. I. The Life Cycle of the Parasite in Ticks. (With Plates I-VII, containing Figs. 1-69, and Fig. I in the Text)	PAG
Schulz, R. E. and Lubimov, M. P. Longistriata skrjabini n.sp. (Nematoda, Trichostrongylidae) from the Ussuri Squirrel. (With 2 Figures in the Text)	5
MOGHE, M. A. Two New Species of Trematodes from an Indian Ruff ( <i>Philomachus pugnax</i> Gray). (With 4 Figures in the Text)	5
AUGUSTINE, DONALD L. and THEILER, HANS. Precipitin and Skin Tests as Aids in Diagnosing Trichinosis. (With Plate VIII, containing Figs. 1, 2, and Fig. I in the Text).	6
TSENG, SHEN. Studies on Avian Cestodes from China. Part I. Cestodes from Charadriiform Birds. (With 37 Figures in the Text)	8
THORPE, W. H. The Primary Larvae of Three Ophionine Ichneumonids, Parasitic on <i>Rhyacionia buoliana</i> . (With Plate IX, containing Figs. 1-11)	10
TATE, P. The Larval Instars of Orthopodomyia pulchripalpis Rond. (Diptera Nematocera). (With Plate X, containing Figs. 1-27, and Fig. I in the Text)	11
RIVNAY, EZEKIEL. Studies in Tropisms of the Bed Bug Cimex lectularius L. (With 9 Figures in the Text)	12
Kirtisinghe, P. Pennella zeylancia n.sp. A Parasitic Copepod of Histiophorus gladius Day. (With 5 Figures in the Text).	13
BISHOP, ANN. A Note upon Trichomonas sanguisugae Alexeieff 1911.  (With 1 Figure in the Text)	14
No. 2 (June)	
GATER, B. A. R. Malayan Trombidiid Larvae, Part I. (Acarina: Trombidiidae.) With Descriptions of Seventeen New Species. (With 16 Figures in the Text).	14
LEWIS, E. ANEURIN. Some Tick Investigations in Kenya Colony	17

MacGregor, Malcolm E. The Ova of Aëdes (Finlaya) geniculatus Olivier	183
CAMERON, A. E. The Nasal Bot Fly, Cephenomyia auribarbis Meigen (Diptera, Tachinidae) of the Red Deer, Cervus elaphus L. (With 3 Figures in the Text)	18
Leeson, H. S. The Effect of Temperature and Humidity upon the Survival of Certain Unfed Rat Fleas. (With 4 Charts)	19
HOARE, CECIL A. On Protozoal Blood Parasites Collected in Uganda. With an Account of the Life Cycle of the Crocodile Haemogregarine. (With 56 Figures in the Text)	210
BISHOP, ANN. Entamoeba aulastomi Nöller. Cultivation, Morphology, and Method of Division; and Cultivation of Hexamita sp. (With Plate XI, containing 26 Figures)	228
BISHOP, ANN. A Note upon <i>Retortamonas rotunda</i> n.sp., an Intestinal Flagellate in <i>Bufo vulgaris</i> . (With 1 Figure in the Text)	233
Hamid, A. A Cestode, <i>Oochoristica khalili</i> n.sp. from a Snake, <i>Psammophis schokari</i> Forskål. (With 3 Figures in the Text) .	238
WARDLE, ROBERT A. On the Technique of Cestode Study. (With 2 Figures in the Text)	24
Davies, Evan. On a Trematode, <i>Ityogonimus lorum</i> (Duj. 1845), with Notes on the Occurrence of Other Trematode Parasites of <i>Talpa europaea</i> in the Aberystwyth Area. (With Plate XII, containing Figs. 1–5)	253
Jones, E. Idris and Rothschild, Miriam. On the Sporocyst and Cercaria of a Marine Distomid Trematode from <i>Nucula</i> . (With 5 Figures in the Text)	260
Daubney, R. and Hudson, J. R. Oesophagostomum multifoliatum n.sp. An Undescribed Nematode from Sheep and Goats. (With 5 Figures in the Text)	26
SHARGA, U. S. A New Nematode, Tylenchus aptini n.sp., Parasite of Thysanoptera (Insecta: Aptinothrips rufus Gmelin). (With 26 Figures and a Chart).	26
Keilin, D. On the Water Reservoir of a Horse-Chestnut Tree. (With Plate XIII)	280
MACAN, T. T. and TUTIN, T. G. A Note on Rot-Holes in Horse-Chestnut Trees	283
TATE, P. and VINCENT, M. The Occurrence of Peculiar Bodies in Blood Cells of Animals after Treatment with some Chemical Compounds (With 1 Figure in the Text)	284

No. 3 (October)
KIRBY, HAROLD, JR. Protozoa in Termites of the Genus Amitermes. (With Plates XIV and XV, containing Figs. 1–26, and Figs. I–X in the Text)
GREEN, RICHARD. A Rapid Method of Staining and Mounting Midguts of Mosquitoes for the Demonstration of Oocysts
HARPER, W. F. On Some British Larval Trematodes from Terrestrial Hosts. (With 13 Figures in the Text)
GOGATE, B. S. On a New Species of Trematode ( <i>Prohemistomum serpentum</i> n.sp.) from a Snake, with a Note on an Immature Species of <i>Heterechinostomum</i> Odhner from the Cat. (With 2 Figures in the Text)
STUNKARD, HORACE W. Some Larval Trematodes from the Coast in the Region of Roscoff, Finistère. (With 13 Figures in the Text)
ARCHIBALD, R. G. and MARSHALL, A. A Study of Some Cercariae obtained from Molluscs in the Sudan. (With Plate XVI, containing 5 Figures)
Bedford, G. A. H. Trichodectidae (Mallophaga) found on African Carnivora. (With 9 Figures in the Text)
Wigglesworth, V. B. The Hatching Organ of <i>Lipeurus columbae</i> Linn. (Mallophaga), with a Note on its Phylogenetic Significance. (With 1 Figure in the Text)
MARSHALL, J. F. and Staley, J. On the Distribution of Air in the Oesophageal Diverticula and Intestine of Mosquitoes. Its Relation to Emergence, Feeding and Hypopygial Rotation. (With 8 Figures in the Text)
MACLEOD, J. The Bionomics of <i>Ixodes ricinus</i> L., The "Sheep Tick" of Scotland. (With 4 Charts and a Map)
TAYLOR, A. W. The Development of West African Strains of Trypanosoma gambiense in Glossina tachinoides under Normal Laboratory Conditions, and at Raised Temperatures. (With Plate XVII, containing 4 Figures)
MELLANBY, KENNETH. Effects of Temperature and Humidity on the Metabolism of the Fasting Bed Bug (Cimex lectularius), Hemiptera. (With 3 Figures in the Text)
BUXTON, P. A. The Relation of Adult <i>Rhodnius prolixus</i> (Reduviidae, Rhynchota) to Atmospheric Humidity. (With 4 Figures in the Text)

ontents

IMMS, A. D. Observations on some Pa		vella frit Lin
Part II. (With 2 Figures in the T	$\mathbf{ext})$	
MURRAY, F. V. Correction. Note on a antarctica	Microcotylid	from Sciaen
No. 4 (JANUA	.ry, 1933)	
JOBLING, B. A. A Revision of the Struct and Salivary Glands of Glossina Plates XVIII-XXII, containing F the Text)	palpalis Rob.	Desv. (Wit
MILLER, DAVID. The Bucco-Pharynger Larva (Calliphora quadrimaculata in the Text)		
TSENG, SHEN. Studies on Avian Cest Cestodes from Charadriiform Bird the Text)		
Hsü, H. F. On Some Parasitic Nem (With 46 Figures in the Text).	natodes Collect	ted in China
Archibald, R. G. and Marshall, A Cercaria with Four Pairs of Flame Figure in the Text).		
Jones, E. Idris. Fertilisation and Eg Trematode, <i>Podocotyle atomon</i> . (W		
KIRTISINGHE, P. Two New Parasitic Co. 7 Figures in the Text)	opepods from C	Ceylon. (With
LEIGH-SHARPE, W. HAROLD. Argulus: Branchiurid of Abramis brama. (W		
Warburton, Cecil. On Five New S Ixodoidea). Ixodes petauristae, I imitans, Amblyomma laticaudae an Notes on Three Previously Describe chinii Tonelli-Rondelli, Haemaph Rhipicephalus maculatus Neumann Text and Figures 8 and 9 on Plate	pecies of Tick . ampullaceus, d Aponomma of d Species, Orni ysalis cooleyi . (With Figur XXIII)	Dermacento Dermacento draconis, with thodorus fran Bedford and es 1-7 in the
REES, CHARLES W. The Experimenta mosis by Dermacentor andersoni	l Transmission	of Anaplas
YAKIMOFF, W. L. and MATIKASCHWILI, I <i>Eimeria nuttalli</i> n.sp., Parasite of I in the Text)		
INDEX TO AUTHORS		• •
INDEX TO SUBJECTS		