# PARASITOLOGY

(Founded by G. H. F. Nuttall, F.R.S.)

EDITED BY

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

#### IN CONJUNCTION WITH

H. A. BAYLIS, M.A., D.Sc. F. J. BROWN, M.Sc. P. A. BUXTON, M.A., M.R.C.S. C. DOBELL, F.R.S. E. HINDLE, Ph.D., Sc.D. C. A. HOARE, D.Sc. K. M. SMITH, Ph.D., D.Sc.

P. TATE, M.Sc., Ph.D.

W. R. THOMPSON, F.R.S.



### LONDON

## CAMBRIDGE UNIVERSITY PRESS

FETTER LANE, E.C. 4

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

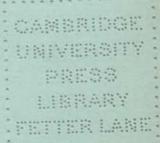
BOMBAY, CALCUTTA, MADRAS: Macmillan TOKYO: Maruzen Company, Ltd.

All rights reserved

Eighteen Shillings and Sixpence net

Issued 9 November, 1935

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. 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 800. 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. 458, net

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

## FOOD POISONING AND FOOD-BORNE INFECTION. (Revised edition, 1931.) By EDWIN O. JORDAN. 11s. 6d. net

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

## RHUS DERMATITIS: ITS PATHOLOGY AND CHEMOTHERAPY. By James B. McNair. 18s. net

Cause, effect, and remedy for ivy poisoning discussed from the standpoints of botany, chemistry and pharmacology.

### SELECTIVE FERTILIZATION. By Donald F. Jones.

9s. net

A splendid study of the factors operating in the plant and animal world to influence the exercise of choice in mate selection.

# JOHN F. NORTON and I. S. FALK. 78. 6d. net

THE EPIDEMIOLOGY AND CONTROL OF MALARIA IN PALESTINE. By
1. J. KLIGLER. 228. 6d. net

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

(Founded by G. H. F. Nuttall, F.R.S.)

### EDITED BY

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

#### IN CONJUNCTION WITH

H. A. BAYLIS, M.A., D.Sc.

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

F. J. BROWN, M.Sc.

C. A. HOARE, D.Sc.

P. A. BUXTON, M.A., M.R.C.S.

K. M. SMITH, Ph.D., D.Sc.

C. DOBELL, F.R.S.

P. TATE, M.Sc., Ph.D.

W. R. THOMPSON, F.R.S.

### VOLUME XXVII 1935

CAMBRIDGE
AT THE UNIVERSITY PRESS
1935

PRINTED IN GREAT BRITAIN

CAMBRIDG UNIVERSIT PRESS LIBRARY

https://dpi.org/10.1017750097182000015377 Published online by Cambridge University Press

### CONTENTS

### No. 1 (February)

LAWRENCE, R. F. The Prostigmatic Mites of South African Lizards. (With 22 Figures in the Text)	<i>i</i> E
DUKE, H. LYNDHURST. On Trypanosoma brucei, T. rhodesiense and T. gambiense and their Ability to Infect Man 4	16
Duke, H. Lyndhurst. Further Studies of the Behaviour of T. rhodesiense, recently Isolated from Man, in Antelope and other African Game Animals	38
Krull, Wendell H. Studies on the Life History of <i>Panopistus</i> pricei Sinitsin, 1931 [Trematoda]. (With Plate I, containing Figs. 1-7)	93
Leigh-Sharpe, W. Harold. <i>Epibrachiella impudica</i> (Nordmann) (Copepoda). (With 8 Figures in the Text)	)1
Leigh-Sharpe, W. Harold. Some New and Rare Lernaeidae (Copepoda) from Plymouth. (With 2 Figures in the Text) . 10	07
Mellanby, Kenneth. A Comparison of the Physiology of the Two Species of Bed-bug which Attack Man. (With 3 Figures in the Text)	11
MacLeod, John. <i>Ixodes ricinus</i> in Relation to its Physical Environment. II. The Factors Governing Survival and Activity. (With 8 Figures in the Text)	23
No. 2 (MAY)	
Taylor, E. L. Do Nematodes assist Bacterial Invasion of the Host by wounding the Wall of the Intestinal Tract? 14	<b>4</b> 5
ROTHSCHILD, MIRIAM. The Trematode Parasites of <i>Turritella com-</i> munis Lmk. from Plymouth and Naples. (With 22 Figures in the Text)	52
ROTHSCHILD, MIRIAM. Note on the Excretory System of Cercaria ephemera Lebour, 1907 (nec Nitzsch). (With 7 Figures in the Text)	71
SKINKER, MARY Scott. A Redescription of Taenia tenuicollis Rudolphi, 1819, and its Larva, Cysticercus talpae Rudolphi, 1819. (With 2 Figures in the Text)	75
Lapage, Geoffrey. The Second Ecdysis of Infective Nematode Larvae. (With 6 Figures in the Text)	36
Woodland, W. N. F. Some more Remarkable Cestodes from Amazon Siluroid Fish. (With Plates II-IV, containing Figs. 1-34, and Fig. I in the Text)	)7

### Contents

Wertheim, P. A New Ciliate, Entodinium bovis n.sp., from the Stomach of Bos taurus L., with the Revision of Entodinium exiguum, E. nanellum, E. simplex, E. dubardi dubardi and E. parvum. (With 6 Figures in the Text)	226
SMITH, KENNETH M. and BALD, J. G. A Description of a Necrotic Virus Disease affecting Tobacco and Other Plants. (With Plates V, VI and 2 Text-figures)	231
BISHOP, ANN. Observations upon a "Trichomonas" from Pond Water. (With Plate VII)	246
Keilin, D., Tate, P. and Vincent, M. The Perispiracular Glands of Mosquito Larvae. (With 2 Figures in the Text)	257
Buxton, P. A. Changes in the Composition of Adult Culex pipiens during Hibernation. (With 1 Figure in the Text)	263
Leigh-Sharpe, W. Harold. Anchistrotos laqueus n.sp. a Parasitic Copepod of Serranus cabrilla. (With 3 Figures in the Text) .	266
Leigh-Sharpe, W. Harold. Two Copepods (Lernaeenicus) Parasitic on Clupea. (With 8 Figures in the Text)	270
Cole, H. A. On some Larval Trematode Parasites of the Mussel (Mytilus edulis) and the Cockle (Cardium edule). (With 5 Figures in the Text)	276
THOMPSON, GORDON B. New Genera of Mallophaga. I. (With 4 Figures in the Text)	281
Mellanby, Kenneth. The Structure and Function of the Spiracles of the Tick, Ornithodoros moubata Murray. (With 2 Figures in the Text)	288
Evans, A. C. Studies on the Influence of the Environment on the Sheep Blow-fly, <i>Lucilia sericata</i> Meig. II. The Influence of Humidity and Temperature on Prepupae and Pupae. (With 6 Figures in the Text)	291
Evans, A. C. Studies on the Influence of the Environment on the Sheep Blow-fly, <i>Lucilia sericata</i> Meig. III. The Influence of Humidity and Temperature on the Adult. (With 4 Figures in the Text)	299
No. 3 (July)	
WOOLCOCK, VIOLET. Digenetic Trematodes from some Australian Fishes. (With Plates VIII and IX and 6 Figures in the Text)	309
KIRTISINGHE, P. Parasitic Copepods of Fish from Ceylon. (With 46 Figures in the Text)	332
THEILER, HANS, AUGUSTINE, DONALD L. and SPINK, WESLEY W. On the Persistence of Eosinophilia, and on Immune Reactions in Human Trichinosis, Several Years after Recovery	345

Contents
SEN, S. K. The Mechanism of Feeding in Ticks. (With 15 Figures in the Text)
RAY, HARENDRANATH. On a New Coccidian, Eimeria laminata n.sp., from the Intestine of an Indian Toad, Bufo melanostictus Schneid. (With Plate X, containing Figs. 1-11)
SRIVASTAVA, HAR DAYAL. New Parasites of the Genus Oriento- phorus n.gen. (Family Fellodistomidae) from an Indian Fresh- Water Fish, Clupea ilisha. (With 4 Figures in the Text)
Happold, Frank Charles and Stephenson, Dora. The Toxicity of Bactericidal Substances for Flagellate Parasites, with Special Reference to their Application in the Isolation of Leptomonas Forms.
Holmes, Francis O. Method of Chain Formation in Herpetomonas bancrofti. (With 9 Figures in the Text)
Patten, Ruth. The Life History of Merocystis kathae in the Whelk, Buccinum undatum. (With Plates XI-XIV, containing Figs. 1-56, and Figs. I-X in the Text)
Manter, H. W. The Structure and Taxonomic Position of Mega- solena estrix Linton 1910 (Trematoda) with Notes on Related Trematodes. (With 7 Figures in the Text)
IYENGAR, M. O. T. Two New Fungi of the Genus Coelomomyces Parasitic in Larvae of Anopheles. (With 5 Figures in the Text)
SMITH, KENNETH, M. Two Strains of Streak: A Virus Affecting the Tomato Plant. (With Plates XV and XVI)
SHARIF, M. On the Presence of Wing Buds in the Pupa of Aphaniptera. (With 2 Figures in the Text)
No. 4 (October)
CARR FRASER, W. A. The Comparison of the Efficiency of Anthelminties
JOHRI, L. N. On Cestodes from Burma. (With 4 Figures in the Text)
HOPKINS, G. H. E. Some Observations on the Bionomics of Fleas in East Africa
Macleod, John. <i>Ixodes ricinus</i> in Relation to its Physical Environment. III. Climate and Reproduction. (With 2 Figures in the Text)
Marshall, J. F. and Staley, J. Some Adult and Larval Characteristics of a British "Autogenous" Strain of Culex pipiens L.
BISHOP, ANN. Observations upon <i>Chilomastix</i> from <i>Bufo vulgaris</i> , with notes on <i>Chilomastix aulastomi</i> . (With Plate XVII, containing Figs. 1–32)

No. 4 (October) continued	
McIntosh, Allen. Description of a tick, Ornithodoros coprophilus n.sp., from Bat Guano. (With Plate XVIII and 2 Text-figures)	519
SMITH, KENNETH M. and DONCASTER, J. P. The Preparation of Gradocol Membranes and their Application in the Study of Plant Viruses. (With 7 Figures in the Text)	523
Pentelow, F. T. K. Notes on the Distribution of the Larvae and Pupae of Simulium spp. in the River Tees and its Tributaries. (With 1 Figure in the Text)	543
Buxton, P. A. The Effect of <i>Proteosoma</i> upon the Survival of Culex	547
GWYNN, A. M. and Hamilton, A. G. Occurrence of a Larval Cestode in the Red Locust <i>Nomadacris septemfasciata</i> Serv. (With 4 Figures in the Text)	551
Tate, P. The Larva of <i>Phaonia mirabilis</i> Ringdahl, Predatory on Mosquito Larvae (Diptera, Anthomyidae). (With 8 Figures in the Text)	556
SHUTE, P. G. The Value of the External Spine of the Harpago in Identifying Varieties of Anopheles maculipennis. (With Plate XIX)	561
Dobell, Clifford. Researches on the Intestinal Protozoa of Monkeys and Man. VII. On the <i>Enteromonas</i> of Macaques and <i>Embadomonas intestinalis</i>	564
WILSON, CHARLES BRANCH. A Parasitic Copepod, Pupulina flores, Re-described, after Forty Years. (With 13 Figures in the Text)	593
Index of Authors	598
INDEX OF SUPERORS	601