CAMBRIDGE UNIVERSITY PRESS

TICKS. A MONOGRAPH OF THE IXODOI-

DEA. By George H. F. Nuttall, M.D., Ph.D., Sc.D., F.R.S., Cecil Warburton, M.A., F.Z.S., W. F. Cooper, B.A., F.Z.S., F.L.S., and L. E. Robinson, A.R.C.Sc. (Lond.). Royal 8vo. Part I. Argasidae. 5s net. Part II. Ixodidae. 12s net. Part III. The Genus Haemaphysalis. 12s net.

BIBLIOGRAPHY OF THE IXODOIDEA

Part I by G. H. F. NUTTALL, L. E. ROBINSON and W. F. COOPER. (2004 titles.)
6s net. (1911.) Not sold separately from Part II of Text as above.

Part II by G. H. F. NUTTALL and L. E. ROBINSON. (462 titles.) 4s 6d net. (1915.)

Not sold separately from Part III of Text as above.

N.B. These Bibliographies are an essential part of the work as they contain complete references to authors cited in the text and the references are frequently accompanied by notes in parentheses.

FUNGOID AND INSECT PESTS OF THE FARM. By F. R. Petherbridge, M.A., Biological Adviser, School

of Agriculture, Cambridge. Crown 8vo. 4s net.

This book has been written for those who wish to acquire some practical knowledge of farm and garden pests. It does not aim at dealing with all the numerous diseases which affect crops but rather at giving an accurate account of some of the commoner forms.

CONTENTS: PART I. Introduction to Fungi—Potato Disease and allied Disease—Finger and
Toe, and Wart Disease—Mildews—Ergot and Clover Sickness—Rusts—Smuts.
PART II. Introduction to Insects—Butterflies and Moths—Beetles—Flies—Aphides and Sawflies-Eelworms.

Fetter Lane, London Cambridge University Press C. F. Clay, Manager

THE JOURNAL OF ZOOLOGICAL RESEARCH

(Founded 1905 as "The Journal of Economic Biology")

Edited by

WALTER E. COLLINGE.

D.Sc. (St And.), M.Sc. (Birm.), F.L.S., etc., Research Fellow of the University of St Andrews,

A quarterly periodical for the publication of records of original research in systematic and structural zoology.

Fully illustrated by lithographic plates and text-figures.

Each volume will consist of four parts, price 21s.

All editorial communications should be addressed to

Dr Walter E. Collinge, the University, St Andrews

and all subscriptions to

LONDON: DULAU & Co., LTD., 37, SOHO SQUARE, W.

CONTENTS

(All rights reserved)

Waterston, James. Notes on the Morphology of Chalcidoidea bred from Calliphora. (With 2 Text-figures.) 190 Waterston, James. A new African Lonse (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 Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.) 228 Hindle, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) 258 Swellengrebel, N. H. and Winoto, Raden Mas Mangkoe. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.) 266 Macfie, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) 274 Nuttall, George H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates IH and IV and 12 Text-		EAGE
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.) 208 Stewart, F. H. On the Development of Ascaris lumbricoides Lin. and Ascaris swilla Duj. in the Rat and Mouse. (With Plate I and 9 Text-figures.) 218 Bacot, A. A Contribution to the Bionomics of Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.) 228 Hindle, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) 258 Swellengrehel, N. H. and Winoto, Raden Mas Mangkoe. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.) 266 Macfie, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) 274 Nuttall, George H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates IH and IV and 12 Text-	other Agents in modifying the Larval Development of the	
Waterston, James. A new African Lonse (Polyplax Calca n. sp.) from Cricetomys. (With 2 Text-figures.)		155
from Cricelomys. (With 2 Text-figures.) BOULENGER, CHARLES L. Sclerostome Parasites of the Horse in England. II. New Species of the Genus Cylichnostomum. (With 5 Text-figures.) 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.) BACOT, A. A Contribution to the Bionomics of Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.) HINDLE, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) SWELLENGREBEL, N. H. and WINOTO, RADEN MAS MANGKOE. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.) MACFIE, J. W. SCOTT. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	bred from Calliphora. (With 2 Text-figures.)	190
Boulenger, Charles L. Sclerostome Parasites of the Horse in England. II. New Species of the Genus Cylichnostomum. (With 5 Text-figures.)	Waterston, James. A new African Louse (Polyplax Calva n. sp.)	Mark State
England. II. New Species of the Genus Cylichnostomum. (With 5 Text-figures.)		199
(With 5 Text-figures.) 208 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.) 218 Bacot, A. A Contribution to the Bionomics of Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.) 228 Hindle, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) 258 Swellengrebel, N. H. and Winoto, Raden Mas Mangkoe. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.) 266 Macrie, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) 274 Nuttall, George H. F. Studies on Pediculus I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-		
Lin. and Ascaris suilla Duj. in the Rat and Mouse. (With Plate I and 9 Text-figures.)	England. 11. New Species of the Genus Cylichnostomum.	9/19
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 Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.) 228 HINDLE, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) 259 SWELLENGREBEL, N. H. and Winoto, Raden Mas Mangkoe. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.) 266 MACFIE, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) 274 NUTTALL, George H. F. Studies on Pediculus. 1. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	STEWART E H On the Development of Accord lumbricaides	200
Plate I and 9 Text-figures.)		
Bacot, A. A Contribution to the Bionomics of Pediculus humanus (Vestimenti) and Pediculus capitis. (With 4 Text-figures.). 228 Hindle, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.). 259 Swellengrebel, N. H. and Winoto, Raden Mas Mangkoe. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.). 266 Macfie, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.). 274 Nuttall, George H. F. Studies on Pediculus. 1. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	Plate I and 9 Text-figures.)	213
HINDLE, E. Notes on the Biology of Pediculus humanus. (With a Foreword by Geo. H. F. Nuttall.) SWELLENGREBEL, N. H. and WINOTO, RADEN MAS MANGKOE. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.). MACFIE, J. W. SCOTT. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.). NUTTALL, GEORGE H. F. Studies on Pediculus. 1. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	BACOT, A. A Contribution to the Bionomics of Pediculus humanus	
a Foreword by Geo. H. F. Nuttall.) SWELLENGREBEL, N. H. and WINOTO, RADEN MAS MANGKOE. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.). MACFIE, J. W. SCOTT. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.). NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-		228
SWELLENGREBEL, N. H. and WINOTO, RADEN MAS MANGKOE. The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and 1 Text-figure.). 266 MACFIE, J. W. Scott. Urethral Spirochaetosis. (With 4 Text- figures and 1 Chart.). 274 NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-		
The Life History of Amoebae of the Limax Type in the Human Intestine. (With Plate II, and I Text-figure.). 266 MACFIE, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.). 274 NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	a Foreword by Geo. H. F. Nuttall.)	259
Human Intestine. (With Plate II, and 1 Text-figure.). 266 MACFIE, J. W. SCOTT. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) 274 NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-		
MACFIE, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-figures and 1 Chart.) NUTTALL, GEORGE H. F. Studies on Pediculus. I. The copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	Human Intestine. (With Plate II, and 1 Text-figure.)	266
figures and 1 Chart.)	MACFIE, J. W. Scott. Urethral Spirochaetosis. (With 4 Text-	
copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	figures and 1 Chart.)	274
Pediculus humanus. (With Plates III and IV and 12 Text-	NUTTALL, GEORGE H. F. Studies on Pediculus. I. The	
	copulatory apparatus and the process of copulation in Pediculus humanus. (With Plates III and IV and 12 Text-	
	figures.)	293

PARASITOLOGY is published about four times a year. The numbers afterwards are issued in volumes each containing four numbers and amounting to between 400 and 500 pages, with plates and figures.

Papers for publication should be sent to Professor Geo. H. F. NUTTALL, F.R.S., Longfield, Madingley Road, Cambridge, Other communications should be addressed to the University Press, Cambridge.

Papers forwarded to the Editors for publication are understood to be

offered to PARASITOLOGY alone, unless the contrary is stated.

Contributors receive seventy-five copies of their papers free. Additional copies, not exceeding 200, may be had at cost price: these should be ordered

when the final proof is returned.

The subscription price is £1. 10s. per volume (post-free), payable in advance; single numbers 10s. net (double number 20s. net). Subscribers to the Journal of Hygiene may obtain single numbers of PARASITOLOGY at the reduced price of 7s. 6d. net, or may become subscribers at the reduced rate of £1. 1s. per volume. Subscriptions may be sent to any Bookseller, or to Mr. C. F. CLAY, Manager, Cambridge University Press, Fetter Lane, London, E.C.

The Cambridge University Press has appointed the University of Chicago Press agents for the sale of Parasitology in the United States of America and has authorised them to charge the following prices: Subscription \$7.50 net per volume; single numbers \$2.50 net each, double numbers \$5.00 net each. Subscribers to the Journal of Hygiene may become subscribers to Parasitology at the reduced rate of \$5.25 per volume.

The prices of back volumes are as follows:

Volumes I, II, III and IV (1908-11). Each volume in four parts, paper covers, 21s. net per volume. Bound in buckram, 25s. net per volume. Volumes V, VI, VII and VIII (1912-16). Each volume in four parts, paper covers, 30s. net per volume. Bound in buckram, 34s. 6d. net per volume.