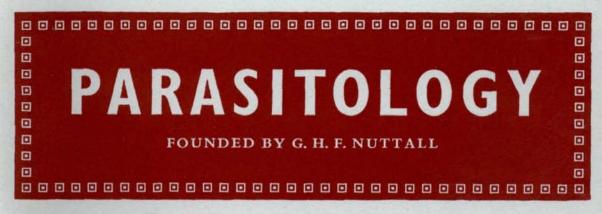
VOLUME 58 PART 1 FEBRUARY 1968





CAMBRIDGE UNIVERSITY PRESS BENTLEY HOUSE, P.O. BOX 92, 200 EUSTON ROAD, LONDON, N.W.1 AMERICAN BRANCH: 32 EAST 57TH STREET, NEW YORK, N.Y. 10022

> Subscription per volume: £9 net (\$32.50) (4 parts) Single parts : £3 net (\$8.50)

https://doi.org/10.1017/S0031182000073352 Published online by Cambridge University Press

PARASITOLOGY

EDITOR

P. TATE, The Molteno Institute, Downing Street, Cambridge

EDITORIAL BOARD

ANN BISHOP, F.R.S. (Chairman) D. R. ARTHUR C. A. HOARE, F.R.S. L. G. GOODWIN J. LLEWELLYN GWENDOLEN REES President of the British Society for Parasitology ex officio

EDITORIAL PANEL

The Editor is also assisted in the refereeing and editing of papers by the following:

H. D. CROFTON G. O. EVANS E. HINDLE, F.R.S. G. LAPAGE D. L. LEE ELSPETH W. McCONNACHIE

S. PRUDHOE W. P. ROGERS G. SALT, F.R.S. J. SMART K. M. SMITH, F.R.S. J. D. SMYTH

PARASITOLOGY publishes original work on parasitology. The scope of the Journal includes papers on morphology; cytology, histochemistry and fine structures; physiology, biochemistry and chemotherapy; and the ecology, life cycle and taxonomy of parasites and their vectors.

EACH ANNUAL VOLUME consists of four parts (published in February, May, August and November) plus an index. Proceedings of the British Society for Parasitology are published in appropriate issues.

SUBSCRIPTIONS may be sent to any bookseller or subscription agent or direct to the Cambridge University Press, Bentley House, P.O. Box, 92, 200 Euston Road, London, N.W. 1. Subscriptions in the U.S.A. should be sent to the American Branch of the Press, 32 East 57th Street, New York, N.Y. 10022. The subscription price is £9 net (including postage) for an annual volume of four parts (\$32.50 in the U.S.A.), payable in advance; separate parts cost £3 net or \$8.50 each (plus postage).

BACK VOLUMES. Vols. 1—39: Inquiries should be addressed to Wm Dawson & Sons Ltd, 16 West Street, Farnham, Surrey. Vols. 40 onwards: Quotations for parts still in print may be obtained from the London or New York offices of the Cambridge University Press.

Contributors are strongly urged to study the notes for their guidance printed inside the back cover and to follow the recommendations set out there.

The previous part was published on 27 November 1968.

PARASITOLOGY

PARASITOLOGY

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

EDITOR

P. TATE

EDITORIAL BOARD

ANN BISHOP, F.R.S. (Chairman) D. R. ARTHUR C. A. HOARE, F.R.S. L. G. GOODWIN J. LLEWELLYN GWENDOLEN REES

EDITORIAL PANEL

H. D. CROFTONS. PRUDHOEG. O. EVANSW. P. ROGERSE. HINDLE, F.R.S.G. SALT, F.R.S.G. LAPAGEJ. SMARTD. L. LEEK. M. SMITH F.R.S.ELSPETH W. McCONNACHIEJ. D. SMYTH

VOLUME 58, 1968

CAMBRIDGE

AT THE UNIVERSITY PRESS

1968

PUBLISHED BY THE SYNDICS OF THE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London, N.W. 1 American Branch: 32 East 57th Street, New York, N.Y. 10022

Printed in Great Britain at the University Printing House, Cambridge

CONTENTS

(All rights reserved)

PART 1, FEBRUARY 1968

	PAGE
THREADGOLD, L. T. The tegument and associated structures of Haplometra cylindracea. (With 2 Plates and 1 Figure in the Text)	1
KRISHNA PILLAI, N. Additions to the copepod parasites of South Indian fishes. (With 12 Figures in the Text)	9
METTRICK, D. F. Studies on the protein metabolism of cestodes. 2. Effect of free dietary amino acid supplements on the growth of <i>Hymenolepis diminuta</i> .	37
HAYNES, W. D. G. and TAYLOR, ANGELA E. R. Studies on the absorption of amino acids by larval tapeworms (Cyclophyllidea: <i>Taenia crassiceps</i>). (With 10 Figures in the Text)	47
WILES, MICHAEL. The occurrence of <i>Diplozoon paradoxum</i> Nordmann, 1832 (Trematoda: Monogenea) in certain waters of northern England and its distribution on the gills of certain Cyprinidae. (With 1 Figure in the Text).	61
MAWSON, PARTICIA M. Inglisonema typos gen.nov., sp.nov., (Nematoda: Seura- toidea: Inglisonematinae, subfam. nov.) from an Australian bird. (With 8 Figures in the Text).	71
MAWSON, PATRICIA M. Two species of Nematoda (Spirurida: Spiruridae) from Australian dasyurids (With 11 Figures in the Text)	75
WILSON, R. A. The hatching mechanism of the egg of <i>Fasciola hepatica</i> L. (With 1 Plate and 1 Figure in the Text).	79
FERNANDO, S. T. Immunological response of rabbits to <i>Toxocara canis</i> infection (With 1 Plate and 5 Figures in the Text)	91
WILLIAMS, H. HARFORD. Acanthobothrium quadripartitum sp.nov. (Cestoda: Tetraphyllidea) from <i>Raja naevus</i> in the North Sea and English Channel. (With 1 Plate and 6 Figures in the Text)	105
 CLEGG, J. A. and SMITHERS, S. R. Death of schistosome cercariae during penetration of the skin. II. Penetration of mammalian skin by Schistosoma mansoni. (With 2 Plates and 1 Figure in the Text) 	105
Dow, C., Ross, J. G. and TODD, J. R. The histopathology of <i>Fasciola hepatica</i> infections in sheep. (With 1 Plate)	129
WARREN, E. W. Vitamin requirements of the <i>Coccidia</i> of the chicken. (With 4 Figures in the Text)	137
KEARN, G. C. The development of the adhesive organs of some diplectanid, tetra- onchid and dactylogyrid gill parasites (Monogenea). (With 17 Figures in the Text)	149
ARTHUR, DON. R. The immature stages of <i>Ixodes tatei</i> Arthur (Ixodidae). (With 12 Figures in the Text)	165

	PAGE
PIKE, ALAN W. Observations on the life-cycle of <i>Psilotrema oligoon</i> (Linstow, 1887) Odhner, 1913, and on the larval stages of two other psilostome trema- todes. (With 6 Figures in the Text)	171
SPRENT, J. F. A. Notes on Ascaris and Toxascaris, with a definition of Baylis- ascaris gen.nov. (With 1 Plate)	185
RAI, S. L. and CLEGG, J. A. Death of schistosome cercariae during penetration of the skin. I. Penetration of bird skin by <i>Austrobilharzia terrigalensis</i> . (With 1 Plate and 1 Figure in the Text)	199
RYLEY, J. F. Chick embryo infections for the evaluation of anticoccidial drugs.	215
HOGARTH-SCOTT, R. S. Naturally occurring antibodies to the cuticle of nematodes. (With 1 Plate and 1 Figure in the Text)	221
CROMPTON, D. W. T. and WHITFIELD, P. J. A hypothesis to account for the anterior migrations of adult <i>Hymenolepis diminuta</i> (Cestoda) and <i>Moniliformis dubius</i> (Acanthocephala) in the intestine of rats. (With 3 Figures in the Text).	227
CROMPTON, D. W. T. and WHITFIELD, P. J. The course of infection and egg produc- tion of <i>Polymorphus minutus</i> (Acanthocephala) in domestic ducks. (With 10 Figures in the Text)	231

PART 2, MAY 1968

THEODOR, OSKAR. New species and new records of Nycteribiidae from the Ethi- opian, Oriental and Pacific Regions. (With 62 Figures in the Text)	247
MAWSON, PATRICIA M. Nematodes from Australian waders. (With 76 Figures in the Text)	277
AWACHIE, J. B. E. On the bionomics of Crepidostomum metoecus (Braun, 1900) and Crepidostomum farionis (Müller, 1784) (Trematoda: Allocreadiidae)	307
CLARKE, KAREN R. The effect of a low protein diet and a glucose and filter paper diet on the course of infection of <i>Nippostrongylus brasiliensis</i> . (With 3 Figures in the Text)	325
CANNING, ELIZABETH U. and BASCH, PAUL F. Perezia helminthorum sp.nov., a microsporidian hyperparasite of trematode larvae from Malaysian snails. (With 2 Plates)	341
VAN PEENEN, P. F. D. and BIRDWELL, T. L. Coccidian parasites of the California Banded King Snake, <i>Lampropeltis getulus californiae</i> . (With 6 Figures in the Text)	349
NEGUS, MICHAEL, R. S. The nutrition of sporocysts of the trematode Cercaria doricha Rothschild, 1935 in the molluscan host Turritella communis Risso. (With 1 Plate and 4 Figures in the Text)	355
HOCKLEY, DAVID J. Small spines on the egg shells of Schistosoma. (With 2 Plates) .	367
ERASMUS, DAVID A. The host-parasite interface of <i>Cyathocotyle bushiensis</i> Khan, 1962 (Trematoda: Strigeoidea.) III. Electron microscope observations on non-specific phosphatase activity. (With 1 Plate).	371

PAGE
377
393
403
415
431
441
461
465
473
481
489

PART 3, AUGUST 1968

BARON, P. J. On the histology and ultrastructure of <i>Cysticercus longicollis</i> , the cysticercus of <i>Taenia crassiceps</i> Zeder, 1800, (Cestoda, Cyclophyllidea). (With 3 Plates and 6 Figures in the Text)	497
LAVOIPIERRE, M. M. J. and RAJAMANICKAM, C. The skin reactions of two species of Southeast Asian Chiroptera to notoedrid and teinocoptid mites. (With 2 Plates and 9 Figures in the Text).	515
KRISHNAMURTHY, R. A new flagellate of the genus <i>Proteromonas</i> Kunstler, 1883, from an Indian lizard. (With 9 Figures in the Text)	531
TAYLOR, E. W. and THOMAS, J. N. Membrane (contact) digestion in the three species of tapeworm <i>Hymenolepis diminuta</i> , <i>Hymenolepis microstoma</i> and <i>Moniezia expansa</i> . (With 3 Figures in the Text)	535
FERNANDO, S. T. Immunological response of the hosts to <i>Toxocara canis</i> (Werner, 1782) infection. I. Effect of superinfection on naturally infected puppies. (With 3 Figures in the Text)	547

	PAGE
McLAREN, DIANE J. and PAGET, G. E. A fine structural study on the merozoite of <i>Eimeria tenella</i> with special reference to the conoid apparatus. (With 4 Plates and 1 Figure in the Text)	561
HOWELL, M. J. The life-cycle of <i>Echinoparyphium servatum</i> sp.nov. (Digenea: Echinostomatidae.) (With 8 Figures in the Text).	573
HOWELL, M. J. Excystment and <i>in vitro</i> cultivation of <i>Echinoparyphium serratum</i> . (With 1 Plate and 5 Figures in the Text)	583
NEAL, R. A. and JOHNSON, PAULINE. The virulence to rats of five <i>Entamoeba</i> histolytica-like strains capable of growth at 25 °C and attempts to discover similar strains	599
THAKUB, AMAR S. and CHENG, THOMAS C. The formation, structure, and histo- chemistry of the metacercarial cyst of <i>Philophthalmus gralli</i> Mathis & Léger. (With 1 Plate and 2 Figures in the Text)	605
ESCH, GERALD W. Studies on carbohydrates in tissues and coenurus fluid of larval Taenia multiceps from normal and alloxanized mice	619
JARRETT, ELLEN E. E., JARRETT, W. F. H. and URQUHART, G. M. Quantitative studies on the kinetics of establishment and expulsion of intestinal nematode populations in susceptible and immune hosts. <i>Nippostrongylus brasiliensis</i> in the rat. (With 5 Figures in the Text)	625
BARRETT, J. The effect of temperature on the development and survival of the infective larvae of <i>Strongyloides ratti</i> Sandground 1925. (With 4 Figures in the Text)	641
BITAKARAMIRE, P. K. Lymnaea natalensis laboratory culture and production of Fasciola gigantica metacercariae	653
ROGERS, W. P. Neurosecretory granules in the infective stage of <i>Haemonchus con-</i> <i>tortus</i> . (With 2 Plates and 1 Figure in the Text)	657
CALLOW, L. L. The infection of Boophilus microplus with Babesia bigemina.	663
WHITFIELD, P. J. A histological description of the uterine bell of <i>Polymorphus</i> minutus (Acanthocephala). (With 9 Figures in the Text)	671
DOWDING, VALERIE M. The formation of the cuticular ridges in the larval pharynx of the blowfly (<i>Calliphora vicina</i> RD). (With 7 Figures in the Text)	683
LONG, P. L. The pathogenic effects of <i>Eimeria praecox</i> and <i>E. acervulina</i> in the chicken. (With 5 Figures in the Text)	691
KIM, KE CHUNG. Two new species of the sucking lice (Hoplopleuridae, Anoplura) from <i>Rattus</i> (Muridae, Rodentia) in Thailand. (With 17 Figures in the Text)	701
HORTON-SMITH, C., LONG, P. L. and LEE, D. L. Observations on the tissue and post-tissue larval development of <i>Ascaridia dissimilis</i> Vigueras 1931, and a comparison with that of <i>Ascaridia galli</i> , in turkeys. (With 1 Plate)	709
JOYNER, L. P. and PURNELL, R. E. The feeding behaviour on rabbits and <i>in vitro</i> of the Ixodid tick <i>Rhipicephalus appendiculatus</i> Neumann, 1901. (With 3 Figures in the Text)	715

ix

	PAGE
PURNELL, R. E. and JOYNER, L. P. The development of Theileria parva in the	
salivary glands of the tick, <i>Rhipicephalus appendiculatus</i> . (With 1 Plate and 1	
Figure in the Text)	725
MCCONNACHIE, ELSPETH W. The growth of an axenic strain of Entamoeba	
invadens in different media. (With 4 Figures in the Text)	733

PART 4, NOVEMBER 1968

MAWSON, PATRICIA M. A new genus, <i>Alainchabaudia</i> (Nematoda: Spirurinae), from coraciform birds in Australia. (With 11 Figures in the Text)	741
MAWSON, PATRICIA M. Habronematinae (Nematoda: Spiruridae) from Australian birds. (With 57 Figures in the Text)	745
PEARSON, J. C. Observations on the morphology and life-cycle of <i>Paucivitellosus</i> fragilis Coil, Reid & Kuntz, 1965 (Trematoda: Bivesiculidae). (With 14 Figures in the Text)	769
BHAIBULAYA, MANOON. A new species of Angiostrongylus in an Australian rat, Rattus fuscipes. (With 4 Figures in the Text)	789
ODHIAMBO, THOMAS R. Growth, longevity, and the frequency of feeding of Glossina pallidipes Austen. (With 9 Figures in the Text)	801
DINNIK, J. A. and SACHS, R. A gigantic <i>Protostrongylus</i> , <i>P. africanus</i> sp.nov., and other lung nematodes of antelopes in the Serengeti, Tanzania. (With 4 Figures in the Text)	819
SCHMIDT, GERALD D. Chevreuxia americana sp.nov. (Nematoda: Acuariidae) from the avocet, Recurvirostra americana, in Colorado. (With 5 Figures in the Text)	831
RIORDAN, K. Chromosomes of the tsetse fly, <i>Glossina palpalis</i> RD. (With 1 Plate)	835
WALLIKER, D. Studies on <i>Myxidium oviforme</i> , a myxosporidan parasite of Irish salmon, <i>Salmo salar</i> . (With 2 Figures in the Text)	839
SCHMIDT, GERALD D. and KUNTZ, ROBERT E. Nematode parasites of Oceanica. IV. Oxyurids of mammals of Palawan, P.I., with descriptions of four new species of <i>Syphacia</i> . (With 16 Figures in the Text)	845
REES, GWENDOLEN. Macrolecithus papilliger sp.nov. (Digenea: Allocreadiidae, Stossich, 1904) from Phoxinus phoxinus (L.). Morphology, histochemistry and egg capsule formation. (With 23 Figures in the Text)	855
WEBSTER, J. M. and HOOPER, D. J. Serological and morphological studies on the inter- and intraspecific differences of the plant-parasitic nematodes <i>Heterodera</i> and <i>Ditylenchus</i> . (With 2 Plates and 5 Figures in the Text).	879
ARTHUR, DON. R. and SNOW, KEITH R. <i>Ixodes pacificus</i> Cooley and Kohls, 1943: Its life-history and occurrence. (With 5 Figures in the Text)	893
WADDELL, A. H. The excretory system of the kidney worm <i>Stephanurus dentatus</i> (Nematoda). (With 4 Plates and 6 Figures in the Text)	907

	PAGE
KEARN, G. C. The larvel development of <i>Merizocotyle</i> sp., a monocotylid mono- genean from the nasal fossae of <i>Raia undulata</i> . (With 2 Figures in the Text)	921
WILLIAMS, H. HARFORD. <i>Phyllobothrium piriei</i> sp.nov. (Cestoda: Tetraphyllidea) from <i>Raja naevus</i> with a comment on its habitat and mode of attachment. (With 14 Figures in the Text)	
OGILVIE, BRIDGET M. and JONES, VALERIE E. Passive protection with cells or antiserum against <i>Nippostrongylus brasiliensis</i> in the rat. (With 4 Figures in the Text)	
DONALD, A. D. Population studies on the infective stage of some nematode parasites of sheep. III. The distribution of stronglyoid egg output in flocks of	•
sheep	951
Proceedings of the British Society for Parasitology	. 1p
Index of Authors	. i
Index of Subjects	. viii