



WELCOME

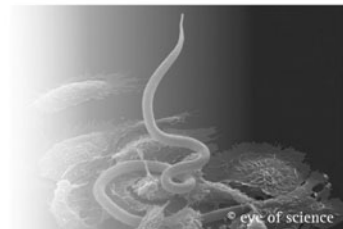
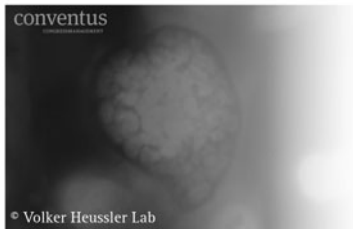
DGP 18 BERLIN



Freie Universität Berlin



28th ANNUAL MEETING OF THE
GERMAN SOCIETY FOR PARASITOLOGY
21-24 March 2018 | www.parasitology-meeting.de



Parasitology

Back volumes. Vols. 1–71: Inquiries should be addressed to Wm. Dawson & Sons Ltd, Cannon House, Folkestone, Kent. Vols. 72 onwards: quotations for parts still in print may be obtained from Cambridge or the American Branch of Cambridge University Press.

Copying. This journal is registered with the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, USA. Organizations in the USA who are also registered with C.C.C. may therefore copy material (beyond the limits permitted by sections 107 and 108 of US copyright law) subject to payment to C.C.C. of the per-copy fee of \$16.00. This consent does not extend to multiple copying for promotional or commercial purposes. Code 0031–1820/2018 \$16.00.

Organizations authorized by the Copyright Licensing Agency may also copy material subject to the usual conditions.

ISI Tear Sheet Service. 3501 Market Street, Philadelphia, Pennsylvania 19104, USA, is authorized to supply single copies of separate articles for private use only.

For all other use, permission should be sought from Cambridge or the American Branch of Cambridge University Press.

Claims for missing issues can only be considered if made immediately after receipt of the subsequent issue.

Advertising. Details of advertising in *Parasitology* may be obtained from the publisher.

Online submission. Authors are encouraged to submit their manuscripts online. Go to <http://mc.manuscriptcentral.com/par/> to open an author's account for *Parasitology*. Manuscript Central is helping to improve the speed of the publication process for the journal.

Front Cover illustration: A schematic illustration of direct and indirect effects of helminths and their products on host immune cells. As shown here, apoptosis occurs in various immune cells during infection with helminths. Helminth-induced apoptosis plays an essential role in parasite survival not only through suppression of anti-parasite immunity, but also via inhibition of immune-mediated tissue injury. From Zakeri, Vol. 144 (13) pp. 1663–1676.

© Cambridge University Press 2018

University Printing House, Cambridge CB2 8BS, United Kingdom
1 Liberty Plaza, Floor 20, New York, NY 10006, USA
477 Williamstown Road, Port Melbourne, VIC 3207, Australia
C/ Orense, 4, Planta 13 28020 Madrid, Spain
Lower Ground Floor, Nautica Building, The Water Club, Beach Road,
Granger Bay, 8005 Cape Town, South Africa

Printed in the UK by Bell & Bain

PARASITOLOGY

CONTENTS

REVIEW ARTICLE

A review of the Acanthocephala parasitising freshwater fishes in Australia

L.R. Smales, R.D. Adlard, A. Elliot, E. Kelly, A.J. Lymbery, T.L. Miller and S. Shamsi 249

RESEARCH ARTICLES

Stage-dependent behavioural changes but early castration induced by the acanthocephalan parasite *Polymorphus minutus* in its *Gammarus pulex* intermediate host

Yann Bailly, Frank Cézilly and Thierry Rigaud 260

Parasitic nematodes of the genus *Syphacia* Seurat, 1916 infecting Muridae in the British Isles, and the peculiar case of *Syphacia frederici*

Alex Stewart, Ann Lowe, Lesley Smales, Anna Bajer, Jan Bradley, Dorota Dwuznik, Frits Franssen, Jack Griffith, Peter Stuart, Cyan Turner, Grzegorz Zalesny and Jerzy M. Behnke 269

Temperature-related parasite infection dynamics: the case of proliferative kidney disease of brown trout

Nicole Strepparava, Helmut Segner, Albert Ros, Hanna Hartikainen, Heike Schmidt-Posthaus and Thomas Wahli 281

Co-factor-independent phosphoglycerate mutase of *Leishmania donovani* modulates macrophage signalling and promotes T-cell repertoires bearing epitopes for both MHC-I and MHC-II

Manish K. Singh, Fauzia Jamal, Amit K. Dubey, Pushkar Shivam, Sarita Kumari, Pushpanjali, Ghufuran Ahmed, Manas R. Dikhit, S. Narayan, V.N.R. Das, Krishna Pandey, K.K. Sinha, P. Das and Shubhankar K. Singh 292

Molecular and morphological characterization of the cercariae of *Lecithodendrium linstowi* (Dollfus, 1931), a trematode of bats, and incrimination of the first intermediate snail host, *Radix balthica*

Egie E. Enabulele, Scott P. Lawton, Anthony J. Walker and Ruth S. Kirk 307

Resistance towards monensin is proposed to be acquired in a *Toxoplasma gondii* model by reduced invasion and egress activities, in addition to increased intracellular replication

Ahmed Thabet, Johannes Schmidt, Sven Baumann, Walther Honscha, Martin von Bergen, Arwid Dausgries and Berit Bangoura 313

Cryptosporidium infecting wild cricetid rodents from the subfamilies Arvicolinae and Neotominae

Brianna L.S. Stenger, Michaela Horčíčková, Mark E. Clark, Martin Kváč, Šárka Čondlová, Eakalak Khan, Giovanni Widmer, Lihua Xiao, Catherine W. Giddings, Christopher Pennil, Michal Stanko, Bohumil Sak and John M. McEvoy 326

Occurrence and diversity of arthropod-transmitted pathogens in red foxes (*Vulpes vulpes*) in western Austria, and possible vertical (transplacental) transmission of *Hepatozoon canis*

Adnan Hodžić, Naike Mrowietz, Rita Cézanne, Pia Bruckschwaiger, Sylvia Punz, Verena Elisabeth Habler, Valentina Tomsik, Judit Lazar, Georg G. Duscher, Walter Glawischnig and Hans-Peter Fuehrer 335

Cattle and rainfall affect tick abundance in central Kenya

Felicia Keesing, Richard S. Ostfeld, Truman P. Young and Brian F. Allan 345

In vitro selection of *Phytomonas serpens* cells resistant to the calpain inhibitor MDL28170: alterations in fitness and expression of the major peptidases and efflux pumps

Simone S.C. Oliveira, Inês C. Gonçalves, Vitor Ennes-Vidal, Angela H.C.S. Lopes, Rubem F.S. Menna-Barreto, Claudia M. D'Ávila-Levy, André L.S. Santos and Marta H. Branquinha 355

Adaptation and evaluation of an ELISA for *Trypanosoma evansi* infection (surra) in elephants and its application to a serological survey in Thailand

Margot Camoin, Arthur Kocher, Piangjai Chalermwong, Sarawut Yangtarra, Nikorn Thongtip, Sathaporn Jittapalpong and Marc Desquesnes 371

Biological function of *Dictyocaulus viviparus* asparaginyl peptidase legumain-1 and its suitability as a vaccine target

Julia Holzhausen, Claas Haake, Sabine Schicht, Petra Hinse, Daniela Jordan, Elisabeth Kremmer and Christina Strube 378

Bank vole immunoheterogeneity may limit Nephropatia Epidemica emergence in a French non-endemic region

A. Dubois, G. Castel, S. Murri, C. Pulido, J.-B. Pons, L. Benoit, A. Loiseau, L. Lakhdar, M. Galan, P. Marianneau and N. Charbonnel 393

Multiple origins of parasitic feminization: thelygeny and intersexuality in beach-hoppers are caused by paramyxid parasites, not microsporidia

James Pickup and Joseph Edward Ironside 408

MicroRNA expression profile in RAW264-7 macrophage cells exposed to *Echinococcus multilocularis* metacystodes

Xiaola Guo and Yadong Zheng 416

Cambridge Core

For further information about this journal please go to the journal website at: cambridge.org/par



MIX
Paper from
responsible sources
FSC® C007785

CAMBRIDGE
UNIVERSITY PRESS