# Knowledge is no longer shelved

The Cambridge Journals Digital Archive contains more than 160 journals, more than 3 million pages and more than 8 million linked references. Knowledge is now more visible and more searchable than ever.







journals.cambridge.org/archives

CAMBRIDGE UNIVERSITY PRESS

## Go Mobile

CJO Mobile (CJOm) is a streamlined Cambridge Journals Online (CJO) for smartphones and other small mobile devices



- Use CJOm to access all journal content including FirstView articles which are published online ahead of print
- Access quickly and easily thanks to simplified design and low resolution images
- Register for content alerts or save searches and articles – they will be available on both CJO and CJOm
- Your device will be detected and automatically directed to CJOm via: journals.cambridge.org



## Rising Impact Factors

- ▲ In the Thomson Reuters 2010 ▲
  Journal Citation Reports®,
  Cambridge journals saw an
  average increase in Impact Factor
  of almost 16.4%.
- ▲ Cambridge's Humanities and ▲ Social Science journals increased by 23.7%, against a 0.1% average increase in the SSCI\*.
- ▲ Cambridge Science, Technology ▲ and Medicine journals increased by 10.6% in comparison to a 1.8% average increase in the SCI\*.

This picture is based on figure 8 of 'The effect of sudden source buoyancy flux increases on turbulent plumes', by M.M. Scase, A.L. Aspden & C.P. Caulfield *Journal of Fluid Mechanics*, Volume 635

\* The comparison of percentage changes refers to those categories that include Cambridge journals only and not the entire collection of SCI or SSCI journals.



#### CAMBRIDGE

#### **JOURNALS**

### Animal Health Research Reviews

Published in collaboration with the Conference of Research Workers in Animal Diseases

#### **Editor-in-Chief**

C. Gyles, University of Guelph, Canada

Animal Health Research Reviews provides an international forum for the publication of reviews and commentaries on all aspects of animal health. Papers include in-depth analyses and broader overviews of all facets of health and science in both domestic and wild animals. Major subject areas include physiology and pharmacology, parasitology, bacteriology, food and environmental safety, epidemiology and virology. The journal will be of interest to researchers involved in animal health, parasitologists, food safety experts and academics interested in all aspects of animal production and welfare.



#### Free email alerts

Keep up-to-date with new content

http://journals.cambridge.org/ahr-alerts



Animal Health Research Reviews is available online at: http://journals.cambridge.org/ahr

#### To subscribe contact Customer Services

#### Americas:

Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions\_newyork@cambridge.org

#### Rest of world:

Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

#### **Price Information**

is available at: http://journals.cambridge.org/ahr



#### CAMBRIDGE

#### **JOURNALS**

#### animal

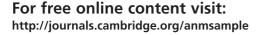
Published for The Animal Consortium www.animal-journal.eu

#### **Editor-in-Chief**

Michel Doreau, INRA, Clermont-Theix, France

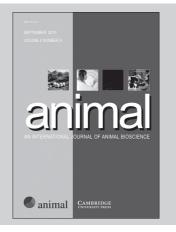
animal publishes original cutting-edge research, 'hot' topics and horizon-scanning reviews on animal-related aspects of the life sciences at the molecular, cellular, organ, whole animal and production system levels.

The main subject areas include: breeding and genetics; nutrition; physiology and functional biology of systems; behaviour, health and welfare; farming systems, environmental impact and climate change; product quality, human health and well-being.



#### Free email alerts

Keep up-to-date with new content http://journals.cambridge.org/anm-alerts



#### animal

is available online at: http://journals.cambridge.org/anm

#### To subscribe contact Customer Services

#### Americas:

Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions\_newyork@cambridge.org

#### Rest of world:

Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

#### **Price Information**

is available at: http://journals.cambridge.org/anm



## Microscopy and Microanalysis

Published for the Microscopy Society of America

#### **Editor**

Robert L. Price, University of South Carolina, USA

Microscopy and Microanalysis, a peer-reviewed bimonthly, publishes original research papers in the fields of microscopy, imaging, and compositional analysis. This distinguished international forum is intended for microscopists in both biology and materials science. The journal provides significant articles that describe new and existing techniques and instrumentation, as well as the applications of these to the imaging and analysis of microstructure. Microscopy and Microanalysis also includes review articles, short communications, letters to the editor, and book reviews.



Microscopy and Microanalysis is available online at: http://journals.cambridge.org/mam

#### To subscribe contact Customer Services

#### in Cambridge:

Phone +44 (0)1223 326070 Fax +44 (0)1223 325150 Email journals@cambridge.org

#### in New York:

Phone +1 (845) 353 7500 Fax +1 (845) 353 4141 Email subscriptions\_newyork@cambridge.org

#### Free email alerts

Keep up-to-date with new material – sign up at

journals.cambridge.org/register

For free online content visit: http://journals.cambridge.org/mam



#### **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 0031–1820/2012 \$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:** Developing larvae of *Acanthocheilonema reconditum* in fleas. Cephalic (left) and caudal (centre and right) regions of third-stage infective larvae. From Brianti *et al.* Vol. 139(4) pp. 530-536.

© Cambridge University Press 2012

The Edinburgh Building, Cambridge CB2 8RU, United Kingdom 32 Avenue of The Americas, New York, NY 10013-2473, 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 United Kingdom at the University Press, Cambridge

### **PARASITOLOGY**

#### **CONTENTS**

REVIEW ARTICLE		Mefloquine interferes with glycolysis in schistosomula	
Defining the concept of 'tick repellency' in veterinary medicine		of <i>Schistosoma mansoni</i> via inhibition of enolase Theresia Manneck, Jennifer Keiser and Joachim Müller	497
L. Halos, G. Baneth, F. Beugnet, A. S. Bowman, B. Chomel, R. Farkas, M. Franc, J. Guillot, H. Inokuma, R. Kaufman, F. Jongejan, A. Joachim, D. Otranto, K. Pfister, M. Pollmeier, A. Sainz and R. Wall	419	Study of <i>Trypanosoma cruzi</i> epimastigote cell death by NMR-visible mobile lipid analysis  Diego Benitez, Horacio Pezaroglo, Verónica Martínez, Gabriela Casanova, Gonzalo Cabrera, Norbel Galanti, Mercedes González	506
RESEARCH ARTICLES		and Hugo Cerecetto	506
Intestinal growth and pathology of Giardia duodenalis assemblage subtype A <sub>I</sub> , A <sub>II</sub> , B and E in the gerbil model E. Bénéré, T. Van Assche, C. Van Ginneken, O. Peulen, P. Cos and L. Maes  In vitro activity of the F-6 fraction of oregano against Giardia intestinalis	424	Trypanosoma cruzi Discrete Typing Units in Chagas disease patients from endemic and non-endemic regions of Argentina C. I. Cura, R. H. Lucero, M. Bisio, E. Oshiro, L. B. Formichelli, J. M. Burgos, S. Lejona, B. L. Brusés, D. O. Hernández, G. V. Severini, E. Velazquez, T. Duffy, E. Anchart, R. Lattes, J. Altcheh, H. Freilij, M. Diez, C. Nagel, C. Vigliano, L. Favaloro, R. R.	
Yadira Rufino-González, Martha Ponce-Macotela, Angélica González-Maciel, Rafael Reynoso-Robles,		Favaloro, D. E. Merino, S. Sosa-Estani and A. G. Schijman	516
Manuel Jiménez-Estrada, Ángeles Sánchez-Contreras and Mario N. Martínez-Gordillo	434	The combined treatment of praziquantel with osteopontin immunoneutralization reduces liver damage in Schistosoma japonicum-infected mice	
Modelling the transmission dynamics of <i>Theileria annulata</i> : model structure and validation for the Turkish context A. J. Sutton, T. Karagenc, S. Bakirci, H. Sarali, G. Pekel and G. F. Medley	441	Bo-Lin Chen, Gui-Ying Zhang, Shi-Ping Wang, Qian Li, Mei-Hu Xu, Yue-Ming Shen, Lu Yan, Huan Gu, Jia Li, Y. L. Huang and Yi-Bing Mu	522
•	441	New insights into the ecology and biology	
A new microsporidian parasite, <i>Heterosporis saurida</i> n. sp. (Microsporidia) infecting the lizardfish, <i>Saurida undosquamis</i> from the Arabian Gulf, Saudi Arabia: ultrastructure and phylogeny		of Acanthocheilonema reconditum (Grassi, 1889) causing canine subcutaneous filariosis Emanuele Brianti, Gabriella Gaglio, Ettore Napoli, Salvatore Giannetto, Filipe Dantas-Torres, Odile Bain and Domenico Otranto	530
S. Al-Quraishy, A. S. Abdel-Baki, H. Al-Qahtani, M. Dkhil G. Casal and C. Azevedo	454	Effects of ultraviolet radiation on the transmission process of an intertidal trematode parasite	
Haplosporidium raabei n. sp. (Haplosporidia): a parasite of		A. Studer, M. D. Lamare and R. Poulin	537
zebra mussels, <i>Dreissena polymorpha</i> (Pallas, 1771) D. P. Molloy, L. Giambérini, N. A. Stokes, E. M. Burreson and M. A. Ovcharenko	463	Castrating parasites and colonial hosts H. Hartikainen and B. Okamura	547
New species of Myxosporea from frogs and resurrection of the genus <i>Cystodiscus</i> Lutz, 1889 for species with			

478





myxospores in gallbladders of amphibians

Phalen and Jan Šlapeta

Ashlie Hartigan, Ivan Fiala, Iva Dyková, Karrie Rose, David N.

