



## Parasitology

EDITOR-IN-CHIEF

R. S. PHILLIPS

EDITOR – SPECIAL ISSUES

L. H. CHAPPELL

ASSOCIATE EDITORS

A. HEMPHILL, C. HOLLAND, D. P. KNOX, J. WASTLING

EDITORIAL POLICY

Parasitology publishes definitive papers on all aspects of pure and applied parasitology including biochemistry, molecular biology, immunology, genetics, ecology and physiology and also the application of new techniques, long-term epidemiology studies, advances in the understanding of life-cycles, chemotherapy and major systematic revisions. Papers should normally be full length with an explanatory introduction and detailed discussion of the findings reported. Shorter reports of particularly important findings will also be considered.

**To submit papers online, go to <http://mc.manuscriptcentral.com/par/>**

T. J. C. ANDERSON, Southwest Foundation for  
Biomedical Research, San Antonio

J. M. BEHNKE, University of Nottingham

C. BJÖRKMAN, Swedish University of Agricultural  
Sciences, Sweden

A. BOWMAN, University of Aberdeen, UK

K. BREHM, University of Würzburg, Germany

C. BRITTON, University of Glasgow, UK

F. E. G. COX, London School of Hygiene & Tropical  
Medicine, London, UK

M. DE NAZARÉ CORREIA SOEIRO, Fundação  
Oswaldo Cruz, Brazil

J. T. ELLIS, University of Technology, Sydney

A. FENTON, University of Liverpool

T. G. GEARY, McGill University, Canada

P. GELDHOF, University of Ghent, Belgium

W. HARNETT, University of Strathclyde

H. HELMBY, London School of Hygiene & Tropical  
Medicine

G. HIDE, University of Salford, UK

A. ITO, Asahikawa Medical College

M. K. JONES, Queensland Institute of Medical  
Research, Brisbane

F. KATZER, Moredun Research Institute, UK

M. W. KENNEDY, University of Glasgow

P. T. LOVERDE, State University of New York at  
Buffalo, USA

V. MCDONALD, Barts and the London School  
of Medicine and Dentistry

E. MORGAN, University of Bristol, UK

S. A. NADLER, University of California, Davis

H. A. NOYES, University of Liverpool, UK

S. O'NEILL, Dublin City University, Ireland

R. POULIN, University of Otago, New Zealand

S. E. RANDOLPH, University of Oxford

D. ROLLINSON, Natural History Museum, London

T. SCHETTERS, Intervet International, Netherlands

J. R. STOTHARD, University of Liverpool, UK

C. STRUBE, University of Veterinary Medicine,  
Hannover, Germany

J. T. TIMI, Universidad Nacional de Mar del Plata,  
Argentina

D. WILLIAMS, University of Liverpool, UK

R. A. WILSON, University of York

D. ZARLENGA, Beltsville Agricultural Research  
Centre

**Parasitology** (ISSN 0031-1820) is published monthly and semi-monthly in April and September.

**Subscriptions** may be sent to any bookseller or subscription agent or direct to the publisher: Cambridge University Press, The Edinburgh Building, Shaftesbury Road, Cambridge CB2 8RU, UK. Subscriptions in the USA, Canada and Mexico should be sent to Cambridge University Press, Journals Fulfillment Department, 100 Brook Hill Drive, West Nyack, New York 10994-2133. All orders must be accompanied by payment.

The subscription price (excluding VAT) of volume 138, 2011 which includes print and electronic access is £1070 (US \$2010 in the USA, Canada and Mexico), for fourteen parts; the electronic-only price for institutional subscribers is £920 (US \$1800 in the USA, Canada and Mexico); separate parts cost £80 or US \$150 each (plus postage). EU subscribers (outside the UK) who are not registered for VAT should add VAT at their country's rate. VAT registered subscribers should provide their VAT registration number. Japanese prices for institutions are available from Kinokuniya Company Ltd, P.O. Box 55, Chitose, Tokyo 156, Japan. Periodicals postage paid at New York, NY and at additional mailing offices. POSTMASTER: send address changes in USA, Canada and Mexico to Parasitology, Cambridge University Press, 100 Brook Hill Drive, West Nyack, New York 10994-2133.

Information on back volumes, permissions and advertising is given on the inside back cover.

The Journal is listed in the major relevant abstracting and indexing services worldwide, including Abstracts on Hygiene and Communicable Disease, Biological Abstracts, Biotechnology Research Abstracts, Chemical Abstracts, Current Awareness in Biological Science, Current Contents, Dairy Science Abstracts, Excerpta Medica, Helminthological Abstracts, Index Medicus, Index Veterinarius, IABS, Protozoological Abstracts, Reviews of Applied Entomology, Tropical Diseases Bulletin, Veterinary Bulletin.

**Internet access.** This journal is included in the Cambridge Journals Online service which can be found at <http://journals.cambridge.org/>. For further information on other Press titles access <http://www.cambridge.org/>.

This journal issue has been printed on FSC-certified paper and cover board. FSC is an independent, non-governmental, not-for-profit organization established to promote the responsible management of the world's forests. Please see [www.fsc.org](http://www.fsc.org) for information.