

C12,14

# THE JOURNAL OF HYGIENE

(Founded in 1901 by G. H. F. Nuttall, F.R.S.)

EDITED BY

R. M. FRY, M.A., M.R.C.S. AND J. H. McCOY, M.B., D.P.H.

IN CONJUNCTION WITH

P. ARMITAGE, M.A., Ph.D.

R. D. BARRY, M.A., B.V.Sc., Ph.D., Sc.D.

W. I. B. BEVERIDGE, D.V.Sc., M.A.

A. B. CHRISTIE, M.A., M.D., F.R.C.P., F.F.C.M.

A. W. DOWNIE, M.D., F.R.S.

R. I. N. GREAVES, M.D., F.R.C.P.

O. M. LIDWELL, D.Phil.

J. NAGINGTON, M.D.

HILLAS SMITH, M.A., M.D., M.R.C.P.

Sir GRAHAM WILSON, M.D., LL.D., F.R.C.P., D.P.H.



CAMBRIDGE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London NW1 2DB

American Branch: 32 East 57th Street, New York, N.Y. 10022

1974 subscription £16.00 net (US \$52.00) (6 parts)

Single parts £3.50 net (US \$11.50)

## The Journal of Hygiene

Papers for publication should be sent to Dr R. M. Fry, Department of Pathology, Tennis Court Road, Cambridge CB2 1QP. Papers forwarded to the Editor for publication are understood to be offered to *The Journal of Hygiene* alone, unless the contrary is stated.

Contributors receive twenty-five copies of their paper free. Additional copies may be purchased; these should be ordered when the final proof is returned.

© Cambridge University Press, 1974

### PERMISSIONS

For permission to reproduce material from *Journal of Hygiene*, please apply to the London or New York office of Cambridge University Press.

ISI Tear Service, 325 Chestnut Street, Philadelphia, Pennsylvania 19106, U.S.A., is authorized to supply single copies of separate articles for private use only.

### SUBSCRIPTIONS

*The Journal of Hygiene* is published six times a year in February, April, June, August, October and December.

Single parts £3.50 net (US \$11.50 in the U.S.A. and Canada) plus postage.

Three parts form a volume; two volumes are published per year. The 1974 subscription price of a volume (which includes postage) is £8.00 net (US \$26.00 in the U.S.A. and Canada).

Second class postage paid at New York, N.Y.

Quotations for back volumes may be obtained from the publisher.

Claims for missing issues cannot be entertained unless received within three months after the date of publication.

Orders should be sent to a bookseller or subscription agent or to the publishers, Cambridge University Press, at Bentley House, 200 Euston Road, London NW1 2DB, or in the U.S.A. and Canada at 32 East 57th Street, New York, N.Y. 10022.

**THE  
JOURNAL OF HYGIENE**

PUBLISHED BY  
THE SYNDICS OF THE CAMBRIDGE UNIVERSITY PRESS  
Bentley House, 200 Euston Road, London NW1 2DB  
American Branch: 32 East 57th Street, New York, N.Y. 10022

*Printed in Great Britain at the University Printing House, Cambridge*

## Contents

No. 1 (AUGUST 1974)

	PAGE
THOMAS, G. Air sampling of smallpox virus. . . . .	1
ROBERTSON, L., FARRELL, I. D. and HINCHLIFFE, P. M. The incidence of <i>Brucella</i> infections in producer-retailer herds in North Lancashire from 1965 to 1972 . . . . .	9
SPLAINE, M., LINTOTT, A. P. and ANGULO, J. J. On the use of contour maps in the analysis of spread of communicable disease . . . . .	15
KALBFLEISCH, J. G. and SPROTT, D. A. Statistical analysis of data bearing on the number of particles required to form a plaque . . . . .	27
BAXBY, D. A possible relation between human pathogenicity of smallpox vaccines and virus growth at elevated temperatures . . . . .	35
GREAVES, J. H., REDFERN, R. and TINWORTH, H. Laboratory tests of 5- <i>p</i> -chlorophenyl silatrane as a rodenticide. . . . .	39
RENNISON, B. D. Field trials of the rodenticide 5- <i>p</i> -chlorophenyl silatrane against wild rats ( <i>Rattus norvegicus</i> Berk.) . . . . .	45
ROWE, F. P., SWINNEY, T. and BRADFIELD, A. Field trials of the rodenticide 5- <i>p</i> -chlorophenyl silatrane against wild house mice ( <i>Mus musculus</i> L.) . . . . .	49
WEIGHTMAN, DORIS, DOWNHAM, M. A. P. S. and GARDNER, P. S. Introduction of a cross-infection rate in children's wards and its application to respiratory virus infections . . . . .	53
WHYTE, W., SHAW, B. H. and FREEMAN, M. A. R. An evaluation of a partial-walled laminar-flow operating room . . . . .	61
MATES, A. and ZAND, P. Specificity of the protective response induced by the slime layer of <i>Pseudomonas aeruginosa</i> . . . . .	75
GARLAND, A. J. M. and MANN, J. A. Attempts to infect pigs with Coxsackie virus type B5 . . . . .	85
ARMITAGE, P. and BENNETT, B. M. Maximum likelihood solutions for the combination of relative potencies . . . . .	97
BURROWS, R., MANN, J. A., GOODRIDGE, D. and CHAPMAN, W. G. Swine vesicular disease: attempts to transmit infection to cattle and sheep . . . . .	101
BURROWS, R., MANN, J. A. and GOODRIDGE, D. Swine vesicular disease: comparative studies of viruses isolated from different countries. . . . .	109
PRESTON, N. W., MACKAY, R. I., BAMFORD, F. N., CROFTS, J. E. and BURLAND, W. L. Pertussis agglutinins in vaccinated children: better response with adjuvant . . . . .	119
CRADOCK-WATSON, J. E., MACDONALD, HELEN, RIDEHALGH, MARGARET K. S., BOURNE, M. S. and VANDERVELDE, ELISE M. Specific immunoglobulin responses in serum and nasal secretions after the administration of attenuated rubella vaccine . . . . .	127
BUCHAN, K. A., MARTEN, KAREN W. and KENNEDY, D. H. Aetiology and epidemiology of viral croup in Glasgow, 1966-72 . . . . .	143

	PAGE
McSWIGGAN, D. A., HUSSAIN, K. K. and TAYLOR, I. O. A fatal case of cutaneous anthrax . . . . .	151
REID, D., BELL, ELEANOR J., GRIST, N. R., TAYLOR, J. C. and ELLIS, JEAN R. Epidemic keratoconjunctivitis in the West of Scotland, 1967-72 . . . . .	157

## No. 2 (OCTOBER 1974)

GRIST, N. R. and BELL, ELEANOR J. A six-year study of coxsackievirus B infections in heart disease . . . . .	165
MEDICAL RESEARCH COUNCIL WORKING PARTY. Post-transfusion hepatitis in a London hospital: results of a two-year prospective study . . . . .	173
MACKINNON, I. H. The use of inactivators in the evaluation of disinfectants . . . . .	189
WAAIJ, D. VAN DER, BERGHUIS-DE VRIES, J. M. and KORTHALS ALTES, C. Oral dose and faecal concentration of antibiotics during antibiotic decontamination in mice and in a patient . . . . .	197
HAYES, N. R., WAAIJ, D. VAN DER and COHEN, B. J. Elimination of bacteria from dogs with antibiotics . . . . .	205
CRONE, P. B. and TEE, G. H. Staphylococci in swimming pool water . . . . .	213
SABBAGHIAN, H. and NADIM, A. Epidemiology of human brucellosis in Isfahan, Iran . . . . .	221
ANDERSON, E. C., DOUGHTY, W. J. and ANDERSON, J. The effect of repeated vaccination in an enzootic foot-and-mouth disease area on the incidence of virus carrier cattle . . . . .	229
ANDERSON, E. C., ANDERSON, J. and DOUGHTY, W. J. The foot-and-mouth disease virus subtype variants in Kenya . . . . .	237
SHOOTER, R. A., COOKE, E. MARY, O'FARRELL, SHEILA, BETTELHEIM, K. A., CHANDLER, MARY E. and BUSHROD, FRANCES M. The isolation of <i>Escherichia coli</i> from a poultry packing station and an abattoir . . . . .	245
HARRIS, D. M. and GRAY, P. B. <i>Pseudomonas aeruginosa</i> and the general hospital: a six-year survey . . . . .	249
WIENEKE, ANTONNETTE A. Enterotoxin production by strains of <i>Staphylococcus aureus</i> isolated from foods and human beings . . . . .	255
MAGUIRE, T., MILES, J. A. R., MACNAMARA, F. N., WILKINSON, P. J., AUSTIN, F. J. and MATAIKA, J. U. Mosquito-borne infections in Fiji, V. The 1971-73 dengue epidemic . . . . .	263
TAYLOR, R. J. The bacteriological status of a specific-pathogen-free animal production building and of its staff and the microbiological integrity of the animals one year after the building was commissioned. . . . .	271
BETTELHEIM, K. A., TEOH-CHAN, C. H., CHANDLER, MARY E., O'FARRELL, SHEILA M., RAHAMIN LAYLA, SHAW, ELIZABETH J. and SHOOTER, R. A. Further studies of <i>Escherichia coli</i> in babies after normal delivery . . . . .	277

Contents

vii

	PAGE
MOLYNEUX, M. E., BEARE, A. S., CALLOW, K. and SCHILD, G. C. Use of single radial immunodiffusion test for serological studies in volunteers inoculated with live attenuated influenza virus . . . . .	287
ROBERTSON, M. H. The provision of bacteriologically safe infant feeds in hospitals	297
STANBRIDGE, T. N. and PRESTON, N. W. Variation of serotype in strains of <i>Bordetella pertussis</i> . . . . .	305
GILLESPIE, W. A., CORNER, BERYL D., BURMAN, D. and ALDER, V. G. Absorption of hexachlorophane from dusting powder on newborn infants' skin . . . .	311
MAIR, HÉLÈNE J., SANSOME, D. A. W. and TILLET, HILARY E. A controlled trial of inactivated monovalent influenza A vaccines in general practice . . . .	317

No. 3 (DECEMBER 1974)

CAUL, E. O., SMYTH, G. W. and CLARKE, SUZANNE, K. R. A simplified method for the detection of rubella-specific IgM employing sucrose density fractionation and 2-mercaptoethanol. . . . .	329
GREAVES, J. H., REDFERN, R. and KING, R. E. Some properties of calciferol as a rodenticide . . . . .	341
ROWE, F. P., SMITH, F. J. and SWINNEY, T. Field trials of calciferol combined with warfarin against wild house mice ( <i>Mus musculus</i> L.) . . . . .	353
RENNISON, B. D. Field trials of calciferol against warfarin resistant infestations of the Norway rat ( <i>Rattus norvegicus</i> Berk.) . . . . .	361
BULMAN, R. A. and STRETTON, R. J. Lesions experimentally produced by fungi implicated in extrinsic allergic alveolitis . . . . .	369
WILLIAMS, R. E. O. and DEAN, BEVERLEY A. Phage types of <i>Staphylococcus aureus</i> in one hospital 1961-72 . . . . .	375
BETTELHEIM, K. A., TEOH-CHAN, C. H., CHANDLER, MARY E., O'FARRELL, SHEILA M., RAHAMIN, LAYLA, SHAW, ELIZABETH J. and SHOOTER, R. A. Spread of <i>Escherichia coli</i> colonizing newborn babies and their mothers . . . .	383
MCLAREN, C., POTTER, C. W. and JENNINGS, R. Immunity to influenza in ferrets, XI. Cross-immunity between A/Hong Kong/68 and A/England/72 viruses: serum antibodies produced by infection or immunization. . . . .	389
BROOKS, J. E. and BOWERMAN, A. M. An analysis of the susceptibilities of several populations of <i>Rattus norvegicus</i> to warfarin. . . . .	401
WAALJ, D. VAN DER, LEKKERKERK-VAN DER WEES, J. E. C. and HEIDT, P. J. Clearance of antibiotics from the intestines after termination of antibiotic decontamination . . . . .	409
BROWNLIE, J., HOWARD, C. J. and GOURLAY, R. N. Mycoplasmacidal activity of bovine milk for T-mycoplasmas . . . . .	415
MORRIS, J. A. and HUSSAINI, S. N. Characterization of the antibodies detected by the microscopic agglutination test for bovine leptospirosis . . . . .	425

	PAGE
GILBERT, R. J., STRINGER, M. F. and PEACE, T. C. The survival and growth of <i>Bacillus cereus</i> in boiled and fried rice in relation to outbreaks of food poisoning	433
SMITH, H. C. T. Epidemic vomiting . . . . .	445
HOWARD, C. J., GOURLAY, R. N. and COLLINS, JACQUELINE. Serological comparison and haemagglutinating activity of <i>Mycoplasma dispar</i> . . . . .	457
BETTELHEIM, K. A., BUSHROD, FRANCES M., CHANDLER, MARY E., COOKE, E. MARY, O'FARRELL, SHEILA and SHOOTER, R. A. <i>Escherichia coli</i> serotype distribution in man and animals . . . . .	467
ROWE, F. P., BRADFIELD, A. and REDFERN, R. Food preferences of wild house mice ( <i>Mus musculus</i> L.) . . . . .	473