

Vol. 75, No. 3

December 1975

C13,14

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., F.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
32 East 57th Street, New York, N.Y. 10022

The Journal of Hygiene

The *Journal of Hygiene* publishes reports of research and original findings in subjects related to hygiene, preventive and social medicine. The field covered is broad and includes infection, microbiology, virology, immunity, epidemiology, food hygiene, sanitary bacteriology, statistics and the clinical and social aspects of disease.

Infection is defined in the widest sense and is concerned with the control of infectious disease in the community and within institutions and includes medical microbiology, clinical immunology, epidemiology, and the laboratory and clinical aspects of antimicrobial chemotherapy.

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 1975

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 £4.00 net (US \$12.00 in the U.S.A. and Canada) plus postage.

Three parts form a volume; two volumes are published per year. The subscription price (which includes postage) of volumes 74 and 75, 1975, is £9.50 net per volume (US \$28.50 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 should be made immediately upon receipt of the subsequent issue.

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

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.

Lately Director of the Public Health Laboratory, Cambridge

AND J. H. MCCOY, M.B., D.P.H.

Director of Public Health Laboratory, Hull

IN CONJUNCTION WITH

P. ARMITAGE, M.A., PH.D.

Professor of Medical Statistics in the University of London

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

Huddersfield Lecturer in Special Pathology in the University of Cambridge

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

Professor of Animal Pathology in the University of Cambridge

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

Physician Superintendent, Fazakerley Hospital, Liverpool

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

Lately Professor of Bacteriology in the University of Liverpool

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

Professor of Pathology in the University of Cambridge

O. M. LIDWELL, D.PHIL.

External Scientific Staff, Medical Research Council

J. NAGINGTON, M.D.

Consultant Virologist, Public Health Laboratory Service

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

Consultant Physician, Coppetts Wood Hospital

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

Lately Director of the Public Health Laboratory Service

VOLUME LXXV. 1975

CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE · LONDON · NEW YORK

PUBLISHED BY
THE SYNDICS OF THE CAMBRIDGE UNIVERSITY PRESS

The Pitt Building, Trumpington Street, Cambridge CB2 1RP
Bentley House, 200 Euston Road, London NW1 2DB
32 East 57th Street, New York, N.Y. 10022

© Cambridge University Press 1975

Printed in Great Britain at the University Printing House, Cambridge

Contents

No. 1 (AUGUST 1975)

	PAGE
P.H.L.S. WORKING GROUP. A programme for collaborative influenza surveillance	1
DE JONCKHEERE, J., VAN DIJCK, P. and VAN DE VOORDE, H. The effect of thermal pollution on the distribution of <i>Naegleria fowleri</i>	7
FOORD, N. and LIDWELL, O. M. Airborne infection in a fully air-conditioned hospital. I. Air transfer between rooms	15
FOORD, N. and LIDWELL, O. M. Airborne infection in a fully air-conditioned hospital. II. Transfer of airborne particles between rooms resulting from the movement of air from one room to another	31
LIDWELL, O. M. Airborne infection in a fully air-conditioned hospital. III. Transport of gaseous and airborne particulate material along ventilated passageways	45
PAUL, R. C., STANFORD, J. L. and CARSWELL, J. W. Multiple skin testing in leprosy	57
WINDSOR, R. S. and ELLIOTT, S. D. Streptococcal infection in young pigs. IV. An outbreak of streptococcal meningitis in weaned pigs	69
BLACK, L., MENARD, F. J. R. R., BEADLE, G. G. and PAY, T. W. F. Hypersensitivity in cattle after foot-and-mouth disease vaccination: response to hydroxypropylmethylcellulose	79
JOYNSON, D. H. M., HOWELLS, C. H. L., LIDDINGTON, R. and WILLIAMS, A. Contamination of fluids from a hospital pharmacy	87
PATTISON, J. R. and DANE, D. S. The routine serological investigation of cases and contacts of rubella	91
JONES, R. J., ROE, E. A. and DYSTER, R. E. Detection of endotoxins with the Limulus test in burned and unburned mice infected with different species of gram-negative bacteria.	99
TAYLOR, MARGARET M. Bacteriological tests as indices for the development of off-flavours in cream	113
GROSS, R. J. and ROWE, B. <i>Citrobacter koseri</i> . I. An extended antigenic scheme for <i>Citrobacter koseri</i> (syn. <i>C. diversus</i> , <i>Levinea malonatica</i>)	121
ROWE, B., GROSS, R. J. and ALLEN, H. A. <i>Citrobacter koseri</i> . II. Serological and biochemical examination of <i>Citrobacter koseri</i> strains from clinical specimens .	129
ELLIS-PEGLER, R. B., CRABTREE, C. and LAMBERT, H. P. The faecal flora of children in the United Kingdom	135
JONES, P. W., BEW, JANICE and GAMMACK, D. B. An investigation into the potential hazard to animal health of effluent sludge from dairy factories	143
CORBEL, M. J. The serological relationship between <i>Brucella</i> spp., <i>Yersinia enterocolitica</i> serotype IX and <i>Salmonella</i> serotypes of Kauffmann-White group N .	151

Contents

No. 2 (OCTOBER 1975)

	PAGE
ROBERTS, DIANE, BOAG, KAREN, HALL, MARY L. M. and SHIPP, CHRISTINE R. The isolation of salmonellas from British pork sausages and sausage meat	173
BERBEE, GERTRUIDE A. M., VAN FURTH, R. and NOBLE, W. C. Endemic infection in surgical wards	185
AL-DUJAILI, A. H. and HARRIS, D. M. <i>Pseudomonas aeruginosa</i> infection in hos- pital: a comparison between 'infective' and 'environmental' strains	195
VLADOIANU, I. R., DUBINI, F. and BOLLOLI, ADELE. Contribution to the study of live streptomycin-dependent <i>Salmonella</i> vaccines: the problem of reversion to a virulent form	203
VLADOIANU, I. R. and DUBINI, F. Experimental model of oral antityphoid vacci- nation with live streptomycin-dependent <i>Salmonella typhimurium</i> in C57BL/6 mice	215
DAVIES, F. G. Observations on the epidemiology of Rift Valley fever in Kenya	219
DAVIES, F. G., SHAW, T. and OCHIENG, P. Observations on the epidemiology of ephemeral fever in Kenya	231
MEAD-BRIGGS, A. R. and VAUGHAN, J. A. The differential transmissibility of myxoma virus strains of differing virulence grades by the rabbit flea <i>Spilop-</i> <i>yllus cuniculi</i> (Dale)	237
REED, SYLVIA E. An investigation of the possible transmission of rhinovirus colds through indirect contact	249
AYLiffe, G. A. J., BABB, J. R., BRIDGES, KIM, LILLY, H. A., LOWBURY, E. J. L., VARNEY, JANET and WILKINS, M. D. Comparison of two methods for asses- sing the removal of total organisms and pathogens from the skin	259
SMITH, H. WILLIAMS and TUCKER, J. F. The effect of antibiotic therapy on the faecal excretion of <i>Salmonella typhimurium</i> by experimentally infected chickens	275
SMITH, H. WILLIAMS and TUCKER, J. F. The effect of feeding diets containing per- mitted antibiotics on the faecal excretion of <i>Salmonella typhimurium</i> by ex- perimentally infected chickens	293
PAUL, R. C., STANFORD, J. L., MISLJENÓVIC, OZRENKA and LEFERING, JANNA. Multiple skin testing of Kenyan schoolchildren with a series of new tuberculins	303
TURK, D. C. An investigation of the family background of acute haemophilus infections of children	315

No. 3 (DECEMBER 1975)

MATOSSIAN, R. M. and ARAJ, G. F. Serologic evidence of the postoperative persis- tence of hydatid cysts in man	333
JENNINGS, R., POTTER, C. W., McLAREN C. and BRADY, MARGARET. A new, surface-antigen-adsorbed influenza virus vaccine. I. Studies on immuno- genicity in hamsters	341

Contents

vii

	PAGE
POTTER, C. W., JENNINGS, R., MCLAREN, C., EDEY, DOROTHY and STUART-HARRIS, C. H. A new surface-antigen-adsorbed influenza virus vaccine. II. Studies in a volunteer group	353
SMITH, M. G. <i>In vivo</i> transfer of R factors between <i>Escherichia coli</i> strains inoculated into the rumen of sheep	363
SMITH, G. R. and MORYSON, CAROLINE J. <i>Clostridium botulinum</i> in the lakes and waterways of London	371
DAVIES, F. G., MUNGAI, J. N. and SHAW, T. Characteristics of a Kenyan camel-pox virus	381
ARROWSMITH, ANN E. M. Variation among strains of type A foot-and-mouth disease virus in the Eastern Mediterranean region 1964–1972	387
PYKETT, ANGELA H. and PRESTON, N. W. Type-specific action of vibriocidal antibody on <i>Vibrio cholerae</i>	399
HILLARY, IRENE B. and FREESTONE, D. S. Persistence of antibody induced by rubella vaccine (Wistar RA 27/3 strain) after six years	407
GIBSON, L. F. Numerical analysis of the characteristics of <i>Corynebacterium diphtheriae</i> strains isolated in Victoria from 1962 to 1971	413
MACKENZIE, J. S., MACKENZIE, ISOBEL, LLOYD, JULIE and DENT, VERONICA. Comparative trials of live attenuated and detergent spilt influenza virus vaccines	425
LIDWELL, O. M., BROCK, B., SHOOTER, R. A., COOKE, E. M. and THOMAS, G. E. Airborne infection in a fully air-conditioned hospital. IV. Airborne dispersal of <i>Staphylococcus aureus</i> and its nasal acquisition by patients	445
GILLESPIE, E. H. and GIBBONS, S. A. Autoclaves and their dangers and safety in laboratories	475