

THE JOURNAL OF HYGIENE

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

EDITED BY

G. S. GRAHAM-SMITH, M.D., F.R.S.

READER IN PREVENTIVE MEDICINE IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

SIR JOHN LEDINGHAM, C.M.G., M.B., D.Sc., F.R.S.,

Professor of Bacteriology in the University of London,
Director of the Lister Institute, London.

M. GREENWOOD, D.Sc., F.R.C.P. F.R.S.,

Professor of Epidemiology and Vital Statistics in the University of London.

SIR DAVID MUNRO, K.C.B., C.I.E., M.B.,

Secretary, Industrial Health Research Board, Medical Research Council.

W. W. C. TOPLEY, M.D., M.Sc., F.R.C.P., F.R.S.,

Professor of Bacteriology and Immunology in the University of London.

PUBLISHED BI-MONTHLY



CAMBRIDGE UNIVERSITY PRESS

LONDON: BENTLEY HOUSE

CHICAGO: The University of Chicago Press
(Agents for the United States)

BOMBAY, CALCUTTA, MADRAS: Macmillan

TOKYO: Maruzen Company Ltd.

All rights reserved

Price Fifteen Shillings net

PRINTED IN GREAT BRITAIN



THE JOURNAL OF HYGIENE

CAMBRIDGE UNIVERSITY PRESS
LONDON: BENTLEY HOUSE



CHICAGO: THE UNIVERSITY OF CHICAGO PRESS
(Agents for the United States)

BOMBAY, CALCUTTA, MADRAS: MACMILLAN

TOKYO: THE MARUZEN COMPANY, LTD.

All rights reserved

THE
JOURNAL OF HYGIENE

(FOUNDED IN 1901 BY G. H. F. NUTTALL, F.R.S.)

EDITED BY

the late

C. C. OKELL, M.C., M.B., Sc.D., F.R.C.P.

LATE PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LONDON

and

G. S. GRAHAM-SMITH, M.D., F.R.S.

READER IN PREVENTIVE MEDICINE IN THE UNIVERSITY OF CAMBRIDGE

IN CONJUNCTION WITH

SIR J. C. G. LEDINGHAM, C.M.G., M.B., D.Sc., F.R.S.

PROFESSOR OF BACTERIOLOGY IN THE UNIVERSITY OF LONDON,
DIRECTOR OF THE LISTER INSTITUTE, LONDON

M. GREENWOOD, D.Sc., F.R.C.P. (LOND.), F.R.S.

PROFESSOR OF EPIDEMIOLOGY AND VITAL STATISTICS
IN THE UNIVERSITY OF LONDON

SIR DAVID MUNRO, K.C.B., C.I.E., M.B.

SECRETARY, INDUSTRIAL HEALTH RESEARCH BOARD,
MEDICAL RESEARCH COUNCIL

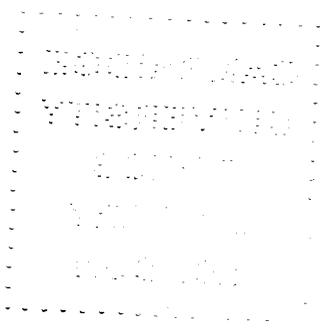
W. W. C. TOPLEY, M.D., M.Sc., F.R.C.P., F.R.S.

PROFESSOR OF BACTERIOLOGY AND IMMUNOLOGY IN THE UNIVERSITY OF LONDON

VOLUME XXXIX. 1939

CAMBRIDGE
AT THE UNIVERSITY PRESS

1939



PRINTED IN GREAT BRITAIN

CONTENTS

NO. 1 (JANUARY 1939)

	PAGE
TODD, E. W. The streptolysins of various groups and types of haemolytic streptococci; a serological investigation	1
PAGE, A. B. P., LUBATTI, O. F. and GLOYNS, F. P. The ventilation of houses after fumigation with hydrogen cyanide. (With 5 figures in the text)	12
GUGGENHEIM, KARL. Investigation on the seasonal fluctuation of vitamin C excretion in Palestine. (With 4 figures in the text)	35
CATHCART, E. P. and MURRAY, A. M. T. A note on the percentage loss of calories as waste on ordinary mixed diets	45
HENNINGSSEN, E. JUEL and ERNST, J. Milk epidemic of scarlet fever and angina, originating from a milkmaid with scarlatinal otitis media. (With 2 figures in the text)	51
CANNY, ALAN J. and MARTIN, C. J. The influence of air movement and atmospheric conditions on the heat loss from a cylindrical moist body. (With 4 figures in the text)	60

NO. 2 (MARCH 1939)

GAUNT, W. E., IRVING, J. T. and THOMSON, W. A long-term experiment with rats on a human dietary. II. Calcium and phosphorus depletion and replacement. (With 1 figure in the text)	91
GREENWOOD, M., HILL, A. BRADFORD, TOPLEY, W. W. C. and WILSON, JOYCE. The effect of withdrawing mice from an infected herd at varying intervals. (With 1 figure in the text)	109
RAINSFORD, S. G. Further studies on the sterilization of T.A.B.C. vaccine	131
NABIH, M. S. <i>Bacterium paratyphosum</i> C as a cause of enteric fever in Egypt	143
GREENER, AVERIL W. Anthrax in mink (<i>Mustela vison</i>)	149
GRIFFITH, A. STANLEY. The susceptibility of the golden hamster (<i>Cricetus auratus</i>) to bovine, human and avian tubercle bacilli and to the vole strain of acid-fast bacillus (Wells). (With Plate I, containing figures 1-9)	154
TWORT, J. M. and LYTH, R. The concentration of carcinogenic materials in mineral oils by distillation processes	161
ADAIR, MURIEL E. and HAMILTON, JOHN. The specificity of antisera against crystalline serum albumin	170
CHEESEMAN, E. A., MARTIN, W. J. and RUSSELL, W. T. Diphtheria. A suggested explanation of the relative change in age incidence	181
TUXFORD, A. W. The estimation of physique and nutrition in children. (With 1 chart in the text)	203

NO. 3 (MAY 1939)

	PAGE
CHARLES CYRIL OKELL. (10 December 1888—8 February 1939). (With 1 Plate)	217
CRUICKSHANK, J. C. Somatic and "X" agglutinins to the <i>Salmonella</i> group	224
VINCENT, D. F. Improvements in the globe thermometer. (With 2 figures in the text)	238
GRIFFITH, A. STANLEY. The relative susceptibility of the field-vole to the bovine, human and avian types of tubercle bacilli and to the vole strain of acid-fast bacillus (Wells, 1937)	244
KLIENEBERGER, EMMY. Studies on pleuropneumonia-like or- ganisms: the L4 organism as the cause of Woglom's "Pyogenic Virus". (With Plate II)	260
WOGLOM, WILLIAM H. and WARREN, JOEL. The nature of a pyogenic filterable agent in the white rat	266
COULTHARD, C. E. A note upon the maintenance of cultures of <i>Bacterium typhosum</i> for testing by the Rideal-Walker method	268
KERMACK, W. O. and MCKENDRICK, A. G. Contributions to the mathematical theory of epidemics. V. Analysis of experimental epidemics of mouse-typhoid; a bacterial disease conferring incomplete immunity. (With 5 figures in the text)	271
HALDANE, J. B. S. Sampling errors in the determination of bacterial or virus density by the dilution method	289
BERGER, F. M. and BRECHER, G. A slide agglutination test for the exclusion and diagnosis of typhoid fever	294
BECK, A. The role of the spirochaete in the Wassermann reaction	298
BECK, A. and BUCKLE, D. F. Bacteriological findings in an epidemic of Sonne dysentery	311
STUART, R. D. The occurrence of Weil's disease among miners in the west of Scotland	316
TULLOCH, W. J. Observations concerning bacillary food infection in Dundee during the period 1923-38	324
ROBERTS, J. I. The relationship of field rodents to plague in Kenya	334

NO. 4 (JULY 1939)

ROBERTS, J. I. Notes on typhus fevers in Kenya. (With 11 figures in the text)	345
ROBERTS, J. I. Rat and flea conditions in a rural endemic plague area in Kenya. (With 4 figures in the text)	355
CLEGG, L. F. L. and SHERWOOD, H. P. Incubation at 44° C. as a test for faecal <i>coli</i> . With a Foreword by R. W. DODGSON. (With 3 figures in the text)	361

Contents

vii

	PAGE
MYERS, G. NORMAN. The effects of morphine, diacetylmorphine and some related alkaloids upon the alimentary tract. I. Stomach and pylorus. (With 7 figures in the text)	375
MYERS, G. NORMAN. The effects of morphine, diacetylmorphine and some related alkaloids upon the alimentary tract. II. Small intestine and ileo-colic sphincter. (With 6 figures in the text).	391
DAVSON, J. The incidence of quartz and sericite particles in siliceous residues in silicotic lungs. (With Plate III)	405
GREAVES, R. I. N. and ADAIR, MURIEL E. High-vacuum condensation drying of proteins from the frozen state. (With Plates IV and V and 12 text-figures)	413
DAVIS, J. G. and ROGERS, H. J. The reactions of streptococci and lactobacilli in blood agar. (With Plate VI and 1 figure in the text)	446
ROWLANDS, A. The udder as a possible source of coliform organisms in milk	454
SYKES, GEORGE. The influence of germicides on the dehydrogenases of <i>Bact. coli</i> . I. The succinic acid dehydrogenase of <i>Bact. coli</i> .	463

NO. 5 (SEPTEMBER 1939)

VAN DEN ENDE, M. Some observations on reversed anaphylaxis. (With Plate VII and 12 text-figures)	471
BEDFORD, T. and WARNER, C. G. Subjective impressions of freshness in relation to environmental conditions	498
MYERS, G. NORMAN. The effects of morphine, diacetylmorphine and some related alkaloids upon the alimentary tract. III. Caecum and colon. (With 8 figures in the text)	512
MYERS, G. NORMAN. A method of testing the stability of finely divided emulsions of oils and fats, with reference to the value of yolk of egg, and decoctum chondri as emulsifying agents .	529
GRAHAM, N. C. and BARTLEY, EILEEN O. Some observations on the classification of enterococci	538
KIRK, R., MCKELVIE, A. R. and DRYSDALE, A. D. The Weil-Felix reaction in trachoma	553
GRAHAM-SMITH, G. S. Further observations on the relation of the decline in the number of horse-drawn vehicles to the fall in the summer diarrhoea death-rate. (With 1 chart)	558
DE SMIDT, F. P. G. Laboratory notes on pneumonia in Kenya .	563
IRWIN, J. O. and CHEESEMAN, E. A. On an approximate method of determining the median effective dose and its error, in the case of a quantal response	574
FRENCH, JANE O. The sulphanilamide treatment of scarlet fever .	581

No. 6 (NOVEMBER 1939)

	PAGE
GALLOWAY, I. A. Pituitary extracts and the virus of foot-and-mouth disease—the effect on the virus of certain chemical methods employed in their preparation	597
HORGAN, E. S. and MANSOUR ALI HASEEB. Cross immunity experiments in monkeys between variola, alastrim and vaccinia	615
WRIGHT, MARGARET D. and BAKER, AUDREY Z. Vitamin B ₁ excretion on a varied intake	638
MARTIN, ARCHER JOHN PORTER and MOORE, THOMAS. Some effects of prolonged vitamin E deficiency in the rat. (With Plate VIII)	643
CHALLINOR, S. W. and RHODES, A. J. The value of the sodium dextro-tartrate fermentation test in the differentiation of <i>Salmonella</i> organisms	651
RHODES, A. J. and LUDLAM, M. The significance of the occurrence of bacteriophage for dysentery bacilli in water supplies	658
KEOGH, E. V., MACDONALD, IAN, BATTLE, JOAN, SIMONS, R. T. and WILLIAMS, STANLEY. Some factors influencing the spread of scarlet fever in an institution	664
VAN DISHOECK, H. A. E. and ROUX, D. J. Sensitization to flour and flour illnesses amongst flour workers	674
HENDERSON, R. G. and McCLEAN, D. The immunity following intracutaneous and subcutaneous vaccination with elementary body suspensions of vaccinia	680
PULVERTAFT, R. J. V. and WALKER, J. W. The control of air-borne bacteria and fungus spores by means of aerosols	696
MYERS, G. NORMAN. The influence of emulsions of olive oil upon the biological actions of alkaloids. (With 1 figure in the text).	705
INDEX OF AUTHORS	716
INDEX OF SUBJECTS	720