JOURNAL OF HYGIENE

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

EDITED BY

H. J. BENSTED, O.B.E., M.C., M.R.C.P. LATELY DIRECTOR, CENTRAL PUBLIC HEALTH LABORATORY

IN CONJUNCTION WITH
W. I. B. BEVERIDGE, D.V.Sc., M.A.

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

R. I. N. GREAVES, M.D.

J. O. IRWIN, M.A., D.Sc., Sc.D., F.S.S.

Sir WILSON JAMESON, G.B.E., K.C.B., M.D., F.R.C.P., D.P.H.

E. T. C. SPOONER, M.D.

G. S. WILSON, M.D., F.R.C.P., D.P.H.



CAMBRIDGE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London, N.W. 1 American Branch: 32 East 57th Street, New York 22, N.Y.

Price Thirty Shillings net (U.S.A. \$5.00)

"GURR'S"





STAINS AND REAGENTS FOR HISTOLOGY & HISTOCHEMISTRY

Diazonium Salts
Tetrazolium Salts
Electrophoresis Dyes
Stains

pH Indicators

Mounting Media Embedding Waxes Staining Vessels Embedding Baths and Ovens Slide Storage Equipment

Buffer Tablets

U.K. Agents for Sigma Biochemicals

WRITE FOR CATALOGUES

GEORGE T. GURR Ltd.

136/140 NEW KING'S ROAD, LONDON, S.W.6
TELEPHONE: RENOWN 5482 (3 lines)
TELEGRAMS: MICROSTAIN, LONDON, S.W.6

MICHROME STAINS

Biological Reagents, etc.

TRIFALGIC ACID for cytology, electrophoresis, etc. (Ref. Irish J. Med. Science, April 1960, pages 182/6)

Adenosine Adenylic acids Adonitol Bromcresol Green Carminic Acid Celloidin Gallocyanin Giemsa Stain Janus Green, B Lacmoid Leishman Stain Luxol Fast Blue Methyl Green Pyronin Ribonuclease Sudan Black Toluidine Blue TPN Trypsin Urease Wright Stain, &c.

OPTOIL: synthetic, non-sticky immersion oil. 62-page catalogue available on request.

EDWARD GURR, LTD.

42 Upper Richmond Road West LONDON, S.W. 14

Telephones: PROspect 8051 and 7606

Service, uniform high quality, reliability, and immediate delivery

Now ready: "Encyclopaedia of Microscopic Stains", by Edward Gurr, 500 pages, Royal 8vo, price 95/-

"Methods of Analytical Histology & Histochemistry", by Edward Gurr, 332 pages, Royal 8vo, price 70/-

"Microscopic Staining Techniques" No. 4, 66 pages, price 6/-. (\$1.00 in U.S.A.). No. 3 (2nd edit.), 66 pages, price 6/-. (\$1.00 in U.S.A.).

BOOKS ON HYGIENE

H. K. LEWIS & CO. Ltd., can supply all Standard Works and Text-books on Hygiene and Sanitary Science, and all branches of Medicine and Surgery. Large selection available. Catalogues on request

MEDICAL AND SCIENTIFIC LIBRARY

ANNUAL SUBSCRIPTION FROM £1, 17s, 6d.

The Library includes all standard and recent works in all branches of Hygiene and Sanitary Science.

Bi-monthly List of New Books and New Editions added to the Library sent post free to any address regularly on request.

THE LIBRARY CATALOGUE revised to December 1956, containing a classified Index of Authors and Subjects. £2. 2s. net; postage 2s. To subscribers to the Library, £1. 5s.; postage 2s.

Secondhand Department. A constantly changing large stock of Medical and Scientific Literature on view, classified under subjects. Libraries or small collections purchased.

LONDON: H. K. LEWIS & CO. Ltd., 136 GOWER STREET, W.C.1

Telephone: EUSton 4282. Telegrams: Publicavit: Westcent: London Business hours: 9 a.m. to 5.30 p.m. Saturdays to 1 p.m.

THE JOURNAL OF HYGIENE

THE

JOURNAL OF HYGIENE

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

EDITED BY

H. J. BENSTED, O.B.E., M.C., M.R.C.P.

LATELY DIRECTOR OF THE CENTRAL PUBLIC HEALTH LABORATORY, COLINDALE

IN CONJUNCTION WITH

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

Professor of Animal Pathology in the University of Cambridge

A. W. DOWNIE, M.D., F.R.S. Professor of Bacteriology in the University of Liverpool

ssor of Dactoriology in the Chivotsity of Diverpor

R. I. N. GREAVES, M.D.
Reader in Bacteriology in the University of Cambridge

J. O. IRWIN, M.A., D.Sc., Sc.D., F.S.S.

Of the Medical Research Council's Statistical Research Unit,
London School of Hygiene and Tropical Medicine

Sir WILSON JAMESON, G.B.E., K.C.B., M.D., F.R.C.P., D.P.H. Some time Chief Medical Officer, Ministries of Health and Education

E. T. C. SPOONER, M.D.

Professor of Bacteriology and Immunology in the University of London

G. S. WILSON, M.D., F.R.C.P., D.P.H.

Director, Public Health Laboratory Service (Medical Research Council, London)

VOLUME LVIII. 1960

CAMBRIDGE
AT THE UNIVERSITY PRESS
1960

PUBLISHED BY

THE SYNDICS OF THE CAMBRIDGE UNIVERSITY PRESS

Bentley House, 200 Euston Road, London, N.W.1 American Branch: 32 East 57th Street, New York 22, N.Y.

Printed in Great Britain at the University Press, Cambridge (Brooke Crutchley, University Printer)

Contents

| | PAGE |
|--|-----------|
| ROODYN, LEONARD. Epidemiology of staphylococcal infections | 1 |
| ROODYN, LEONARD. Recurrent staphylococcal infections and the duration of the carrier state | 11 |
| Abou-Gareeb, A. H. The detection of cholera vibrios in Calcutta waters: the River Hooghly and canals | 21 |
| ÇETIN, ENVER TALI. Heat labile and heat stable factors and antibodies in normal and immune sera against T-system bacteriophages | 35 |
| CHARLES, ARWYN. An electron microscope study of molluscum contagiosum. (With Plates 1-5). | 45 |
| LACEY, B. W. Antigenic modulation of Bordetella pertussis | 57 |
| CAMPBELL, PATRICK J. and HESELTINE, W. W. An apparent growth stimulant for Candida albicans released from tetracycline-treated bacterial flora | 95 |
| Sowa, J. and Collier, L. H. Isolation of trachoma virus from patients in West Africa. (With Plates 1-3) | 99 |
| BOKKENHEUSER, V. and RICHARDSON, N. J. Salmonellae and shigellae in a group of rural South African Bantu school children | 109 |
| Kartman, Leo. Further observations on an insecticide-bait-box method for the control of sylvatic plague vectors: effect of prolonged field exposure to DDT powder | 119 |
| No. 2 (June 1960) | |
| Bentley, E. W. and Greaves, J. H. Some properties of fluoracetamide as a rodenticide | 125 |
| POSTLETHWAITE, R. and MAITLAND, H. B. The eclipse phase of vaccinia virus growing in chick embryo cell monolayers and some technical procedures which affect its demonstration | 133 |
| Chadwick, P. and Slade, J. H. R. Identification of bacteria by specific antibody conjugated with fluorescein isothiocyanate. (With Plate 1) | 147 |
| McQuade, A. B. and Sutherland, W. J. A. An improved device for sampling bacterial populations on blankets. (With Plates 1 and 2) | 157 |
| Hurst, A., Stuttard, L. W. and Woodroffe, R. C. S. Disinfectants for use in bar-soaps | 159 |
| DAVIES, D. G. The influence of temperature and humidity on spore formation and germination in <i>Bacillus anthracis</i> | 177 |
| HUYGELEN, C. Antirabic immunity in guinea-pigs induced by high egg passage Flury virus. The influence of the route of administration on the resistance to cerebral and extraneural challenge | 187 |

| | PAGE |
|--|------|
| SLOAN, R. S., WILSON, H. D. and WRIGHT, HELEN A. The detection of a carrier of multiple phage-types of Salmonella paratyphi B | 193 |
| Bernstein, A. Laboratory investigations of a carrier of multiple phage types of Salmonella paratyphi B . | 201 |
| ROBERTSON, MURIEL. The antigens of <i>Trichomonas foetus</i> isolated from cows and pigs. (With Plate 1) | 207 |
| Gray, D. F., Graham-Smith, Heather and Noble, J. L. Variations in natural resistance to tuberculosis | 215 |
| Datta, Naomi and Pridie, R. B, with a Note by Anderson, E. S. An outbreak of infection with Salmonella typhimurium in a general hospital | 229 |
| DAVIES, M. ELIZABETH. Observations on leptospiral antibodies occurring in pig sera | 243 |
| PIERCE, A. E. and Johnson, P. Ultracentrifuge and electrophoretic studies on the proteinuria of the new-born calf. (With Plates 1 and 2) | 247 |
| No. 3 (September 1960) | |
| Nosek, J. and Santholzer, W. Strontium 90 in dairy milk produced in central Europe during 1957–1960 | 261 |
| DAVIES, A. MICHAEL and LAZAROV, ELIAHU. Heredity, infection and chemoprophylaxis in rheumatic carditis: an epidemiological study of a communal settlement | 263 |
| HITCHCOCK, GRISELDA, TYRRELL, D. A. J. and BYNOE, M. L. Vaccination of man with attenuated live adenovirus | 277 |
| GARDNER, P. S. A serological relationship between mumps and sendai viruses . | 283 |
| Buckland, F. E. Detection of bacterial antigens by means of sensitized guineapig ileum | 291 |
| LIDWELL, O. M. The evaluation of ventilation | 297 |
| Gerichter, C. B. The dissemination of Salmonella typhi, S. paratyphi A and S . paratyphi B through the organs of the white mouse by oral infection . | 307 |
| SELZER, GOLDA. The use of new antigens in the complement-fixation test for acute poliomyelitis | 321 |
| Papadakis, J. A. Dulcitol-sucrose-salicin-iron-urea agar (DSSIU)—a new medium for differential diagnosis of Salmonellae | 331 |
| FREEMAN, M. A. R. and BARWELL, C. F. Ethylene oxide sterilization in hospital practice. (With Plates 1 and 2) | 337 |
| BARNES, ALLAN M. and KARTMAN, LEO. Control of plague vectors on diurnal rodents in the Sierra Nevada of California by use of insecticide bait-boxes | 347 |

Contents vii

| No. 4 (December 1960) | |
|---|------|
| COLEBROOK, LEONARD, LOWBURY, E. J. L. and HURST, The late L. The growth and death of wound bacteria in serum, exudate and slough | PAGE |
| MARSHALL, J. H. and Kelsey, J. C. A standard culture medium for general bacteriology | 367 |
| DIMMICK, ROBERT L. Measurement of the physical decay of aerosols by a light scatter method compared to a radioactive tracer method | 373 |
| SMITH, H. WILLIAMS. The effect of feeding pigs on food naturally contaminated with salmonellae | 381 |
| Kaplan, Colin. The antigenicity of γ -irradiated vaccinia virus | 391 |
| KENDALL, E. J. C., VOLLUM, R. L., BESWICK, T. S. L., MILLER, ANN and TOBIN, J. O'H. The antigenic activity of some poliomyelitis vaccines used in the United Kingdom in 1958 | 399 |
| THORNE, H. V. and Burrows, T. M. Aerosol sampling methods for the virus of foot-and-mouth disease and the measurement of virus penetration through aerosol filters | 409 |
| Polson, A., Hampton, J. W. F. and Deeks, D. Zone electrophoresis of poliovirus partially inactivated by formaldehyde. (With Plates 1 and 2) | 419 |
| BLOWERS, ROBERT and CREW, BERYL. Ventilation of operating-theatres. (With Plates 1 and 2) | 427 |
| LIDWELL, O. M. and WILLIAMS, R. E. O. The ventilation of operating-theatres | 449 |
| OLIVER, R. and TOMLINSON, A. H. The sterilization of surgical rubber gloves and plastic tubing by means of ionizing radiation | 465 |
| FERGUSON, G. S. and ROBERTSON, A. Brucellosis in dairy herds—some applications of the milk ring test | 473 |
| MARSHALL, I. D. and FENNER, FRANK. Studies in the epidemiology of infectious myxomatosis of rabbits. VII. The virulence of strains of myxoma virus recovered from Australian wild rabbits between 1951 and 1959 | 485 |