The Quarterly Journal of Microscopical Science

(Third Series, No. 27)

JOINT EDITORS

C. F. A. PANTIN, Sc.D., F.R.S. JOHN R. BAKER, D.Sc.



Published for the Company of Biologists Limited

OXFORD: AT THE CLARENDON PRESS LONDON: GEOFFREY CUMBERLEGE

PRINTED IN GREAT BRITAIN
BY CHARLES BATEY AT THE UNIVERSITY PRESS, OXFORD

TO CONTRIBUTORS

Study of this notice may accelerate publication by three months.

Contributions to the Journal should be sent to Dr. C. F. A. Pantin, Dept. of Zoology, Downing St., Cambridge. If any preliminary communication on the subject of a paper offered to the Editors has been sent to another journal, a note to this effect must accompany the manuscript.

Manuscripts must be typewritten (double-spaced). Typescripts should be fully corrected; an allowance of 10s. per sheet of sixteen pages is made for alterations in proof, contributors being responsible for any excess.

Manuscripts should be as concise as possible. Papers that conform to the instructions given on this page and do not exceed 6,000 words will usually be published more quickly than others.

Extensive introductory matter and long discussions, commonly required in theses for university degrees, should not be included in the manuscript.

Words to be printed in italics should be underlined. Division of the matter into subheadings must follow a consistent plan and excessive subdivision must be avoided.

All manuscripts must be accompanied by a summary, not exceeding 5 per cent. of the length of the paper and in no case exceeding 500 words. The summary should contain no illustration or table and should be intelligible by itself without reference to illustrations or tables in the body of the paper. The summary must be a brief statement of the chief results obtained: it must not be a mere list of subjects discussed. It must be placed at the beginning of the paper, after the author's name and address.

Footnotes should not be used.

Acknowledgements should be placed at the end of the paper, before the references.

References should be given in the following style:

Goodrich, E. S., 1919. The evolution of living organisms. London (Jack). Wigglesworth, V. B., 1933. Quart. J. micr. Sci., 76, 270.

If it is considered desirable to give the titles of papers, they should be placed in inverted commas immediately after the dates of the references.

ILLUSTRATIONS

These should not be redundant. Authors may be asked to provide a grant for excessive illustration. Illustrations (including lettering) should be arranged so that they may be printed as figures of a size appropriate to a page of the journal. The maximum size of a printed figure is 13 cm.×20 cm. Text-figures should be made about half as large again as the size required in print. Thus a drawing destined to occupy a whole page should be about $19\frac{1}{2} \times 30$ cm., including lettering.

All figures, both text-figures and plates, should be numbered in a single series (figs. 1, 2, 3, &c.). There must not be one numbered series of text-figures and another separately numbered series of plates. The Editors will decide which shall be reproduced as plates and which as text-figures. If several drawings or photographs are grouped in a single figure, they must be distinguished by capital letters (A, B, C, &c.). All photomicrographs must be carefully mounted on white cardboard. If several photomicrographs are to form a single plate or text-figure, they must be mounted in their proper places on a single piece of cardboard.

Drawings should be 'line and dot' in black process ink.

Lithographic and coloured illustrations will not be published unless the author is prepared to make a grant covering the cost of their production.

The position of figures should be clearly indicated by notes written in the margin of the typescript.

The lettering of figures should be written in block capitals on accurately imposed outlines on tracing-paper. Abbreviations should not be used unless absolutely necessary.

The magnification of a figure must be indicated by a scale drawn on it. It must not be stated as a number intended to be printed in the legend to the figure.

A typewritten (double-spaced) list of the legends of all figures must be provided.

Authors receive 50 copies of their contributions gratis, and may buy additional copies if they apply to the Editors when they return the corrected proofs.

IMPORTANT NOTICE

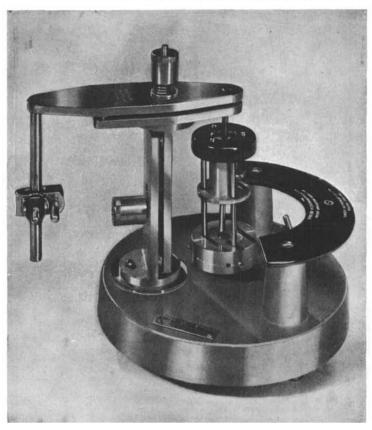
Quarterly Journal of Microscopical Science

The Publisher regrets that owing to increased cost of production it is necessary to raise the subscription price to 84s., post free, and the price of a single number to 30s. net.

The increased prices are applicable to orders for the 1954 and subsequent issues.

SINGER MICROMANIPULATORS

(patent application 11559/48: Foreign patents pending)
As described by Barer and Saunders-Singer, Q.J.M.S., Vol. 89, pp. 439-47, Dec. 1948



SINGER INSTRUMENT COMPANY LIMITED FOUNTAIN COURT, 83 LONDON STREET READING, BERKSHIRE, ENGLAND

Manufacturers also of Singer Microdissectors (patent application 14125/50: Foreign patents pending)



Official repairing agents in Great Britain for

CARL ZEISS OF JENA and BAUSCH & LOMB, U.S.A.

ZEISS APPARATUS

We can undertake to overhaul and repair most Zeiss instruments. Mr. Perkins has specialized in Leitz and Zeiss instruments since 1909, and was in charge of the London repair shops of these firms for fifteen years. When original spares are not obtainable, we manufacture replacements, if practicable.

B. COOK & S. PERKINS

PLEASE NOTE NEW ADDRESS:

Pembroke Works, Pembroke Road, Muswell Hill, London, N. 10
Telephone: TUDor 9731-2-3

GURR'S



Established 1915

STAINS AND REAGENTS FOR MICROSCOPY

KNOWN AND USED

THROUGHOUT

THE WORLD

WRITE for any of the following literature:

Catalogue of Stains B 16 Gurr's Commentary No. 12 Q. R. Lab. Notes

Biological Staining Methods
5/6 post paid
Catalogue of Accessories. A.C.

GEORGE T. GURR LTD.

Laboratories:

136/138 NEW KINGS ROAD LONDON, S.W. 6

No connexion with any other business of similar name

METHYLENE BLUE POLYCHROME (TERRY'S) S.S.

(J. Lab. and Clin. Med., 1928, 13, 550)

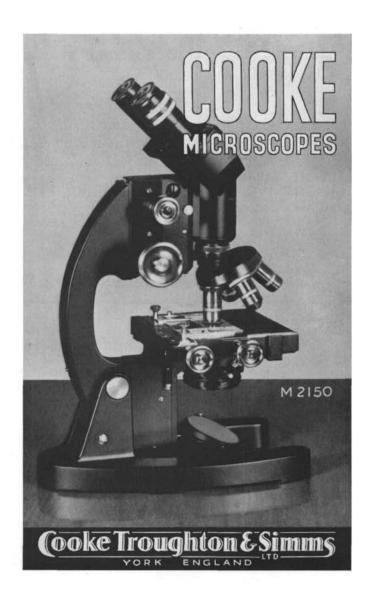
The wide range metachromasy of Terry's formulation of polychrome methylene blue is useful in the rapid identification of fresh tissues. Thin slices are immersed in an aqueous solution (0.1 - 0.5%) of the dye for a few minutes, rinsed with water and are ready for microscopic examination.

Aqueous solutions also stain paraffin sections brilliantly. The sections, which must not be dehydrated with alcohol, may be mounted in glycerol or mixtures of glycerol and gelatine.

1g. 2s. 6d. 5g. 10s. 0d.

THE BRITISH DRUG HOUSES LTD.
B.D.H. LABORATORY CHEMICALS CROUP
POOLE DORSET

_LC/MS/1a-



HEFFER'S



BOOKS ON SCIENCE MATHEMATICS & THE HUMANITIES

IN ALL LANGUAGES

Catalogues available free Books and learned journals bought

W. HEFFER & Sons, Ltd.

Petty Cury . Cambridge

BRAND MICHROME BRAND MICROSCOPIC STAINS

Organic Laboratory Reagents

Adonitol
Auramine, O
Bromcresol Green
Carminic Acid
Cedarwood Oil
Celloidin
Chlorazol Black
Dulcitol
Gallocyanin
Giemsa Stain

Janus Black Janus Green, B Leishman Stain Lacmoid May-Grunwald Stain Methyl Green Methylene Green Neutral Red Phloroglucinol Pyronin Resazurin Sodium Taurocholate Sudan Black Toluidine Blue Vital New Red Wright Stain, &c.

Stains and Reagents for Fluorescence Microscopy Tablets for Water Analysis

Laboratory Apparatus and Instruments

Nile Blue

Prepared only by

EDWARD GURR, LTD.

42 Upper Richmond Road, East Sheen LONDON, S.W.14

Price Lists and Literature on Application Telegrams: Micromiabs, Put, London Telephones: PROspect 8051 and 7606

Service, uniform high quality, reliability, and immediate delivery

Now ready: 'Practical Manual of Medical & Biological Staining Techniques' (330 pages, price 26s., post free) by Edward Gurr, author 'Microscopic Staining Techniques'.

The Journal of

Experimental Biology

Edited by J. GRAY

¶The official medium for the publications of the Society for Experimental Biology, including articles on experimental biology and comparative physiology, whether zoological or botanical.

¶The Society is affiliated to the Biological Council and the Journal is included in the Council's 'Contents Lists' service.

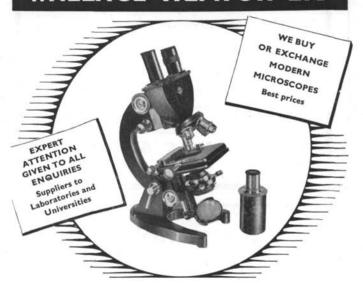
¶ The subscription rate is £3. 3s. net per volume. Single numbers cost £1. 1s. net, double numbers £2. 2s. net each.

The current issue is Volume 30, No. 2, June 1953.

CAMBRIDGE UNIVERSITY PRESS Bentley House, 200 Euston Road, London, N.W. 1



WALLACE HEATON LTD



NEW Research, Laboratory & Student MICROSCOPES BY PRIOR, BECK, WATSON, SWIFT, ETC.

Also a Large Selection of Second-hand Stands always in stock, guaranteed to be in first-class condition from £10—£150

REPAIRS, OVERHAULS, ETC.

We undertake in our own workshops by experienced scientific workers, repairs, overhauls, etc., to your own scientific equipment and turn it out practically like new. Estimates given on sight of instruments.

EASY PAYMENTS AVAILABLE

We are glad to announce that our easy payment plan is available for both new and secondhand equipment costing £10 or more. 25% deposit, the balance payable in 12 or 24 further monthly installments. The plan is simple and straightforward. Please write for form.

127 NEW BOND STREET, LONDON, W.I

Phone: Mayfair 7511

BOOKS ON THE PURE AND APPLIED SCIENCES always in stock

FOREIGN BOOKS. Select stock available. Continental and American works obtained to order under Board of Trade licence at the most favourable rates.

Science Catalogues on request

Please state interests

SCIENTIFIC LENDING LIBRARY Annual Subscription from TWENTY-FIVE SHILLINGS

Prospectus post free on application

THE LIBRARY CATALOGUE, revised to December 1949. Pp. xii + 1152. To subscribers 17s. 6d. net, to non-subscribers 35s. net, postage 1s. 3d. Supplement 1950 to 1952: To subscribers 3s. net, to non-subscribers

6s. net, postage 6d. Bi-monthly List of New Books and New Editions post free on request

SECONDHAND BOOK DEPT.: A constantly changing large stock of recent editions available

H. K. LEWIS & Co. Ltd.

136 GOWER STREET, LONDON, W.C. I

Telephone: EUSton 4282 (7 lines) Established 1844

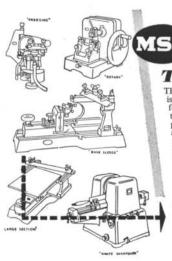
The Journal of General Microbiology

Editors: B. C. J. G. KNIGHT and A. F. B. STANDFAST

The Journal of General Microbiology is conducted by the Society for General Microbiology, whose aim is to promote the advancement of microbiology by providing a common meeting ground for those working in all the various specialized fields including, for example, medical, veterinary, agricultural and economic microbiology. The Society is concerned with the more fundamental aspects of the study of bacteria, viruses, micro-fungi, protozoa and microscopic algae in their various biological activities, its members being united by the common aim of developing scientific knowledge concerning micro-organisms.

The subscription rate is 90s. net per volume of 3 parts, Single parts 35s. each, plus postage. Two volumes will be issued each year. Orders should be sent to

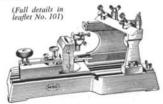
CAMBRIDGE UNIVERSITY PRESS BENTLEY HOUSE, 200 EUSTON ROAD, LONDON, N.W. 1



MSE MICROTOMES

The 'Base Sledge'

THE MSE 'BASE SLEDGE' MICROTOME is particularly rigid in construction allowing for the sectioning of greatly diverse and tough types of specimen such as wood, rubber, plastics, and soft metals. Object feed is adjustable from 1 to 20 microns in steps of 1 micron. Takes 240 mm. knife. A variety of stages for paraffin, celloidin or freezing work is available.



MEASURING & SCIENTIFIC EQUIPMENT LTD., SPENSER ST., LONDON, S.W.1



Microscopical Stains

A complete range of Microscopical Trains of uniform high quality and reliability are available for the state of the our laboratories or Revector dyestuffs are in the above of the our laboratories or are carefully selected on the saids of appropriate tests for identity and purity.

GIEMSA STAIN HAEMATOXYLIN
LEISHMAN STAIN METHYLENE BLUE
TOLUIDINE BLUE

For the full range write for list II,1.

HOPKIN & WILLIAMS LTD.

Manufacturers of fine chemicals for Research and Analysis.

FRESHWATER ROAD, CHADWELL HEATH, ESSEX.





REFLECTING MICROSCOPE

The Beck Reflecting Microscope has been designed to enable the full advantage to be taken of the new series of reflecting objectives, developed from the designs of the Wheatstone Laboratory and Medical Research Council Biophysics Research Unit at King's College, London.

They contain no lenses or correcting plates, having two reflecting surfaces only.

They are completely achromatic and transmit all radiations from vacuum ultra-violet to long wavelength infra-red. There is no spherical aberration. They are specially suitable for all forms of microspectrography.

Full particulars will be sent on application

R. & J. BECK LTD. 69 Mortimer St., London, W. I



THE 'BACTIL' MODEL

The binocular microscope of modern design incorporating newfeatures, and still retaining the high standard of precision and rigidity for which these instruments are well known.

For full particulars write for booklet IA which will be sent post free.



WATSON'S

W. WATSON & SONS LTD. 313 HIGH HOLBORN, LONDON, W.C.I.