

THE
BIOCHEMICAL
JOURNAL

EDITED FOR THE BIOCHEMICAL SOCIETY

BY

HAROLD WARD DUDLEY

AND

ARTHUR HARDEN

EDITORIAL COMMITTEE

PROF. G. BARGER

SIR F. G. HOPKINS

PROF. V. H. BLACKMAN

SIR F. KEEBLE

MR J. A. GARDNER

PROF. W. RAMSDEN

SIR E. J. RUSSELL



CAMBRIDGE UNIVERSITY PRESS

LONDON: Fetter Lane, E.C. 4

also

H. K. LEWIS & Co., Ltd., 136, Gower Street, London, W.C. 1

WHELDON AND WESLEY, Ltd., 2-4, Arthur Street, New Oxford Street, W.C. 2

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

BOMBAY, CALCUTTA, MADRAS: Macmillan and Co., Ltd.

TOKYO: The Maruzen-Kabushiki-Kaisha

1928

Price Twenty-five Shillings nett

The *Biochemical Journal* is conducted by the Biochemical Society and is published by the Cambridge University Press.

This Society has been instituted for the purpose of facilitating intercourse between those biologists and chemists who are interested in the investigation of problems common to both, such as the chemical problems connected with Agriculture, Brewing, Animal and Vegetable Physiology and Pathology, &c. Persons interested in Biochemistry are eligible for election.

Meetings are held at different centres for the communication of papers to the Society.

The annual subscription is 35s., which includes a copy of the Journal, and becomes due on January 1st. Further information may be obtained on application to the Hon. Sec., Dr H. D. Kay, Medical Unit, London Hospital, Whitechapel, London, E. 1, or to the Hon. Treas., Mr J. Addyman Gardner, 13 Campden Grove, Kensington, W. 8, to whom subscriptions should be sent.

Papers for publication should be sent to Prof. A. Harden, F.R.S., Lister Institute, Chelsea Gardens, S.W. 1. Communications respecting the printing of the articles, or respecting the purchase of offprints should be addressed to the University Press, Cambridge.

The Journal is issued about every two months and the date at which each paper is received by the editors is printed at the beginning of the paper.

All communications respecting the purchase of copies of the parts or volumes, whether current or back issues, or respecting subscriptions in the case of non-members of the Biochemical Society (£3 net per volume (post free) payable in advance) should be addressed to The Cambridge University Press, Fetter Lane, London, E.C. 4, or to the Hon. Treas., Mr J. Addyman Gardner, 13 Campden Grove, Kensington, W. 8. For prices of back numbers and volumes see list on p. 4 of Wrapper.

Quotations can be given for Buckram binding cases and for binding Subscribers' Sets.

The Cambridge University Press has appointed the University of Chicago Press agent for the sale of the *Biochemical Journal* in the United States of America and has authorised the following subscription price. \$15.00 net.

Notice to Contributors.

1. Contributors who are members of the Biochemical Society receive 25 copies of their papers free and can purchase additional copies if notice be given when their proofs are returned. Other contributors may purchase reprints but receive no free copies.

2. Papers forwarded to the Editors for publication are understood not to be offered to any other Journal for prior or simultaneous publication.

3. All communications intended for publication must be type-written.

4. **References.** References to literature should be arranged alphabetically according to authors' names at the end of the communication, each accompanied by the date, title of Journal, volume and page, thus: Ackermann (1912), *Z. Biol.* 59, 17. In the text the reference should be indicated by the author's name and the date, enclosed in brackets, thus [Ackermann, 1912]. If reference is made to several papers published by one author in a single year, these should be numbered in sequence and the number quoted along with the year both in the text and in the collected references.

5. Chemical formulae should be written, as far as possible, in a single horizontal line.

6. Illustrations and curves accompanying the papers must be carefully drawn, about twice the size of the finished block, on smooth white Bristol boards or ordinary curve paper in Indian ink. Any lettering on these drawings should be lightly inserted in pencil. Further information can be obtained from the Editors.

MSS. for the successive numbers of Vol. 22 should be in the hands of the Editors before the 1st of January, March, May, July, September and November respectively. Contributors are specially requested to arrange references in the manner uniformly adopted in this Journal.

THE
BIOCHEMICAL
JOURNAL

CAMBRIDGE UNIVERSITY PRESS

LONDON: FETTER LANE, E.C. 4



H. K. LEWIS AND CO., LTD., 136, GOWER STREET, LONDON, W.C. 1
WHELDON AND WESLEY, LTD., 2-4, ARTHUR STREET, NEW OXFORD
STREET, LONDON, W.C. 2

PARIS: LIBRAIRIE HACHETTE & CIE.

CHICAGO: THE UNIVERSITY OF CHICAGO PRESS
(AGENT FOR THE UNITED STATES)

BOMBAY, CALCUTTA AND MADRAS: MACMILLAN AND CO., LTD.

TOKYO: THE MARUZEN-KABUSHIKI-KAISHA

All rights reserved

THE
BIOCHEMICAL
JOURNAL

EDITED FOR THE BIOCHEMICAL SOCIETY

BY

HAROLD WARD DUDLEY

AND

ARTHUR HARDEN

EDITORIAL COMMITTEE

PROF. G. BARGER

SIR F. G. HOPKINS

PROF. V. H. BLACKMAN

SIR F. KEEBLE

MR J. A. GARDNER

PROF. W. RAMSDEN

SIR E. J. RUSSELL

VOLUME XXII 1928

CAMBRIDGE
AT THE UNIVERSITY PRESS

1928

PRINTED IN GREAT BRITAIN

XXXI. Further developments of rapid volumetric methods for the determination of amino-acids, organic acids and bases. II. Rapid quantitative removal and determination of the carbonic acid radicle, especially in bacterial cultures, without exposing other constituents to risk of loss or change. By F. W. FOREMAN. (With one figure)	222
XXXII. The anticoagulant action of peptone <i>in vitro</i> . By J. O. W. BARRATT. (With two figures)	230
XXXIII. Chemical changes in muscle. Part I. Methods of analysis. By E. BOYLAND. (With one figure)	236
XXXIV. The effects of phloridzin and other substances on fermentations by yeast. By W. J. DANN and J. H. QUASTEL. (With seven figures)	245
XXXV. The value of whole potato in human nutrition. By S. K. KON and A. KLEIN	258
XXXVI. The nutritional value of tuberin, the globulin of potato. By S. K. KON	261
XXXVII. On the evidence for phosphatides in the external surface of the plant protoplast. By F. C. STEWARD	268
XXXVIII. Antineuritic yeast concentrates. III. The curative pigeon test: a critique. By H. W. KINNERSLEY, R. A. PETERS and V. READER. (With one figure)	276
XXXIX. Chemical constitution and toxicity. By E. WALKER	292

PRICES OF BACK NUMBERS AND VOLUMES.

In Paper covers.

Volumes I-VI.	31s. 6d. net per vol.	} Quotations can be given by the publishers for bound copies of back numbers.
Volumes VII-X.	(<i>Out of print.</i>)	
Index of Authors and Subjects in Volumes I-X.	5s. 3d. net. (By post, 5s. 5d.)	
Volumes XI-XVI.	(<i>Out of print.</i>)	
Volumes XVII-XVIII.	60s. net per vol.	
Volume XIX.	(<i>Out of print.</i>)	
Volumes XX-XXI.	60s. net per vol.	

For Notice to Contributors see page 2 of Wrapper