

The BIOCHEMICAL JOURNAL

November 1975

Volume 152, No. 2

EDITORIAL BOARD

Chairman

J. T. Dingle

Deputy Chairmen

H. B. F. Dixon

K. M. Jones

N. M. Green *

R. D. Marshall

Editorial Secretary

J. D. Killip

Assistant Editorial Secretary

E. N. Maltby

J. W. Bradbeer

H. G. Britton

R. B. Cain

M. Cannon

J. B. Clark

D. D. Davies

R. M. Denton

F. M. Dickinson

R. R. Dils

D. C. Ellwood

P. B. Garland

J. J. Holbrook

M. R. Hollaway

R. C. Hughes

A. E. Kellie

U. E. Loening

J. A. Lucy

W. I. P. Mainwaring

P. A. Mayes

J. C. Metcalfe

R. E. Offord

D. V. Parke

R. N. Perham

C. I. Pogson

D. Robinson

E. V. Rowsell

A. P. Ryle

S. P. Spragg *

D. R. Stanworth

I. O. Walker

D. H. Williamson

*Nominated by the British
Biophysical Society

Overseas Advisory Panel

F. J. Ballard (*Australia*), S. Bergström (*Sweden*), B. Chance (*U.S.A.*), J.-P. Changeux (*France*), P. W. Choppin (*U.S.A.*), C. de Duve (*Belgium and U.S.A.*), W. H. Elliott (*Australia*), D. Garfinkel (*U.S.A.*), F. W. E. Gibson (*Australia*), A. A. Hadjiolov (*Bulgaria*), H. G. Hers (*Belgium*), M. Ya. Karpeisky (*U.S.S.R.*), P. Siekevitz (*U.S.A.*), W. D. Stein (*Israel*), G. P. Talwar (*India*), H. G. Williams-Ashman (*U.S.A.*), H. G. Wittmann (*Germany*), I. G. Wool (*U.S.A.*)



London: The Biochemical Society

THE BIOCHEMICAL SOCIETY

OFFICERS AND COMMITTEE, 1975-76

Chairman of the Committee

T. S. Work

Treasurer

D. F. Elliott

General Secretary

H. M. Keir

Publications Secretary

R. M. C. Dawson

Meetings Secretary

J. B. Lloyd

Assistant Meetings Secretary

H. F. Bradford

Committee

G. B. Ansell

B. A. Askonas, F.R.S.

H. S. Bachelard

K. Burton, F.R.S.

J. T. Dingle*

C. A. Fewson

C. Green

K. Griffiths

M. G. Harrington

J. N. Hawthorne

C. H. S. Hitchcock

J. J. Holbrook

H. K. King

R. J. B. King

T. F. Slater

**Ex officio Member of Committee;
representative of Editorial Board
of the *Biochemical Journal*.*

Executive Secretary

A. I. P. Henton (7 Warwick Court, London WC1R 5DP)

The Biochemical Society exists to advance the science of biochemistry through meetings and publications. Several meetings a year are held, each at a different place; original papers are presented and special topics are discussed at symposia and colloquia.

Persons interested in biochemistry are eligible for election as Members. Details of further facilities accorded to Members, and forms of application for membership, are available from the Executive Secretary, The Biochemical Society, 7 Warwick Court, London WC1R 5DP [01-242 1076 (4 lines)].

The **Biochemical Journal** is published and distributed by the Biochemical Society. It is published twice monthly, alternate issues being devoted to **Molecular Aspects** and to **Cellular Aspects** of biochemistry. It is planned that in 1975 eight volumes, each volume being made up of three issues, will be published according to the following schedule:

Molecular Aspects			Cellular Aspects		
1975	Vol.	Part	1975	Vol.	Part
1 Jan.	145	1	15 Jan.	146	1
1 Feb.	145	2	15 Feb.	146	2
1 Mar.	145	3*	15 Mar.	146	3*
1 Apr.	147	1	15 Apr.	148	1
1 May	147	2	15 May	148	2
1 June	147	3*	15 June	148	3*
1 July	149	1	15 July	150	1
1 Aug.	149	2	15 Aug.	150	2
1 Sept.	149	3*	15 Sept.	150	3*
1 Oct.	151	1	15 Oct.	152	1
1 Nov.	151	2	15 Nov.	152	2
1 Dec.	151	3*	15 Dec.	152	3*

* Completes volume, and includes Indexes.

Biochemical Society Transactions. This is now a separate publication (see below). Volume 3 will be published in 1975, in six parts.

Subscription Rates to the Biochemical Journal. For non-members of the Biochemical Society the subscription in 1975 is £105.00. Subject to exchange variation the rate for U.S.A., Canada and Mexico is \$265.00 (despatch by air freight to these countries).

Subscribers to the *Biochemical Journal* can subscribe to *Biochemical Society Transactions* on a joint subscription, saving £10 (\$25.00). The joint subscription is £113.00 (\$280.00 to addressees in

U.S.A., Canada and Mexico; both publications despatched by air freight).

Terms are cash with order or against proforma invoice. Orders and subscriptions should be sent to the Biochemical Society (Publications), P.O. Box 32, Commerce Way, Colchester CO2 8HP, Essex, or through your normal agent.

Claims regarding issues lost or damaged in transit should be addressed to the Biochemical Society at the address given in the preceding paragraph. Claims cannot be entertained if they are received later than three months after the date of posting.

Back Numbers. Enquiries for volumes 1-19 of the Journal should be addressed to William Dawson & Sons Ltd., Back Issues Department, Cannon House, Park Farm Road, Folkestone, Kent. Quotations for available issues of subsequent volumes and parts of the Journal, and also of Transactions, may be obtained on application to The Biochemical Society (Publications), P.O. Box 32, Commerce Way, Colchester CO2 8HP, Essex.

Microforms. The following versions are available.

(a) Microfilm (35 mm): Volumes 1-101.

(b) Microfiche (98-image): Volumes 102-144.

Details and prices are available on request from the Biochemical Society's Colchester office.

Advertisements. Applications for advertising space should be sent to the Advertising Department, The Biochemical Society, 7 Warwick Court, London WC1R 5DP [01-242 1076 (4 lines)]. Copy is required eight weeks before publication date. Rate cards are available on request.

Index of Authors

	PAGE		PAGE		PAGE
Ali, T. A. J.	357	Goodwin, T. W.	303	Quinn, P. S.	341
Anthony, C.	349	Grant, M. E.	291	Quirino, A.	211
Arinze, I. J.	393				
Aronson, N. N., Jr.	271	Harris, R. C.	173	Rajwade, M. S.	379
Auricchio, F.	211	Harwood, R.	291	Rees, H. H.	303
		Heath, D. F.	417	Roguet, R.	421
Barbiroli, B.	229	Hemming, F. W.	191	Rotondi, A.	211
Boudet, A.	409	Hems, D. A.	389	Roughan, P. G.	217
Bourrillon, R.	421	Holdsworth, E. S.	181	Rowley, D. L.	393
Bovina, C.	229	Holliman, A.	267	Rowsell, E. V.	357
Bramley, T. A.	365	Hultman, E.	173	Rowsell, K. V.	357
Bremer, H.	243	Humphrey, T. J.	409		
Bresciani, F.	211			Sahlin, K.	173
		Jackson, D. S.	291	Satriano, R.	211
Campbell, A. K.	255	Johnson, P.	303	Seiler, N.	201
Chapman, K. P.	271	Jordan, J. E.	181	Selwyn, M. J.	333
Chavin, S. I.	267	Judah, J. D.	341	Slack, C. R.	217
Cook, I. F.	303			Smith, S. A.	401
Costa, N. D.	161, 167	Kako, K. J.	313	Snoswell, A. M.	161, 167
Cripps, R. E.	233	Katyare, S. S.	379	Sreenivasan, A.	379
Cunningham, V. J.	417	Keenan, E.	181	Strange, R. C.	429
Davies, D. D.	409	Labadie, J. H.	271	Tolomelli, B.	229
Dawson, A. P.	333	Leader, D. P.	373	Topping, D. L.	425
Dorling, P. R.	341				
Dormer, R. L.	255	Ma, G. Y.	389	Widdowson, D.	349
Dreize, M. A.	281	Marchetti, M.	229	Wishart, G. J.	325
Dutton, G. J.	325				
		O'Brien, J. A.	429	Young, R.	243
Eichentopf, B.	201	Oliver, G. J. A.	191		
				Ziboh, V. A.	281
Fatterpaker, P.	379	Patterson, S. D.	313		
		Pogson, C. I.	401		

NOTES FOR CONTRIBUTORS

It is the policy of the *Biochemical Journal* to publish papers in English in all fields of biochemistry, provided that they make a sufficient contribution to biochemical knowledge. Papers may include new results obtained experimentally, descriptions of new experimental methods of biochemical importance, or new interpretations of existing results. Theoretical contributions will be considered equally with papers dealing with experimental work. All work presented should have as its aim the development of biochemical concepts rather than the mere recording of facts. Preliminary or inconclusive experiments should not generally be described.

For detailed instructions on the preparation of papers contributors should refer to *Policy of the Journal and Instructions to Authors* [*Biochem. J.* (1975), 145, 1–20] (obtainable free, on request, from the Executive Secretary, The Biochemical Society, 7 Warwick Court, London WC1R 5DP). The *Biochemical Journal* uses the recommended SI (Système Internationale) symbols [see *Pure Appl. Chem.* (1970), 21, 1–44; *Quantities, Units and Symbols* (1971), The Royal Society, London]. For biochemical nomenclature authors should as far as possible follow the Tentative Rules and Proposals of the IUPAC-IUB Commission on Biochemical Nomenclature [see *Biochem. J.* (1975), 145, 9–10]. For chemical nomenclature the IUPAC Rules should be followed [see *Biochem. J.* (1975), 145, 12–13]. The *Biochemical Journal* uses as a standard of spelling the *Concise Oxford Dictionary of Current English* (Clarendon Press, Oxford).

Two types of paper are accepted by the editors.

Full-length papers. Papers submitted for publication should be sent, together with an extra copy of the synopsis, to the Editorial Secretary, The Biochemical Journal, 7 Warwick Court, London WC1R 5DP. Typescripts should bear the name and address of the person to whom the proof of the paper is to be sent.

Papers submitted should be written concisely. Special attention is directed to the sections below concerning the preparation of the typescript. Typescripts that are not concise or do not conform to the conventions of the *Biochemical Journal* will be returned to the authors for revision. If a paper that has been returned to an author for revision is not resubmitted within one month, it will, on resubmission, be deemed to be a new paper and the date of receipt altered accordingly. A revised paper containing a significant amount of new material will also be redated.

Submission of a paper to the Editorial Board implies that it has been approved by all the named

authors, that it reports unpublished work, that it is not under consideration for publication elsewhere, and that if accepted for the *Biochemical Journal* it will not be published elsewhere in the same form, either in English or in any other language, without the consent of the Editorial Board.

Papers should be headed by a concise but informative full title, by the names of the authors (preferably with one forename in full for each author) and by the name and address of the establishment where the work was performed. Details of financial support appear in the acknowledgements at the end of the paper.

Before preparing papers authors should consult a current issue of the Journal to make themselves familiar with the general format, such as the use of cross-headings, lay-out of tables and citation of references. Papers should be in double-spaced typing throughout (including the references and legends of tables and figures) on sheets of uniform size and wide margins. The top copy should be submitted. It cannot be overemphasized that the need for revision of badly prepared typescripts inevitably leads to delays in publication.

Papers on specialized subjects should be presented so that they are intelligible to the ordinary reader of the Journal. Sufficient information must be included to permit repetition of the experimental work.

Short Communications. Typescripts should be submitted in duplicate, written in English, and conform strictly to the form of the Journal as far as spelling and abbreviations are concerned. Each Short Communication should be provided with a short synopsis (normally not exceeding 50 words). Such communications should not exceed 2400 words in length inclusive of the title, references etc. Authors may include up to two insertions such as tables, figures or schemes; in these cases authors must assess what proportion of a page these insertions will occupy and reduce the number of text words accordingly at the rate of 700 words per full page of the Journal. Authors are advised that the preparation of tables and especially figures is liable to cause a slight increase in publication time. Under no circumstances whatsoever can a complete Short Communication occupy more than four pages of the Journal. Papers should be complete in themselves; (1) the methods used in experimental work must be adequately described or sufficient reference given to allow repetition of the work; (2) sufficient indication of the results of experimental work must be included to justify the claims made. Communications should be addressed to the Editorial Secretary, The Biochemical Journal, 7 Warwick Court, London WC1R 5DP.