

Edited for the British Pharmacological Society by

A.W. Cuthbert (*Chairman*) H.M. Adam (*Secretary*)
Margaret Day (*Press Editor*)
J.D. Stephenson (*Assistant Press Editor*)

A.M. Barrett	J.S. Kelly
W.G. Bisset	G.M. Lees
T.B. Bolton	G.P. Lewis
D.A. Brown	I.H.M. Main
B.A. Callingham	E.K. Matthews
T.J. Crow	J.F. Mitchell
F. de Matteis	P.A. Nasmyth
C.T. Dollery	M.W. Parkes
V. Eisen	M. Sandler
E.W. Gill	A.P. Silverman
A.F. Green	M.A. Simmonds
D.F. Hawkins	F.M. Sullivan
Margarethe Holzbauer	A. Ungar
D.B. Hope	R.A. Webster

Papers will be considered for publication on all aspects of drug action, including chemotherapy.

Manuscripts (two copies) should be sent to Dr H.M. Adam, Department of Pharmacology, University of Edinburgh Medical School, 1 George Square, Edinburgh EH8 9JZ. Authors should consult the instructions inside the back cover.

The British Journal of Pharmacology is published monthly by Macmillan Journals Ltd, 4 Little Essex Street, London WC2R 3LF. Telephone: 01-836 6633. ISSN 0007-1188.

Annual subscription £45.00 (USA & Canada \$99. Rest of world \$92). (Orders must be accompanied by remittance. Prices correct at time of publication.)

Cheques should be made payable to Macmillan Journals Limited: Subscription Department, Brunel Road, Basingstoke, Hampshire RG21 2XS, England.

Enquiries concerning advertising space and rates should be addressed to: Advertisement Department, Macmillan Journals Limited, 4 Little Essex Street, London WC2R 3LF. Telephone: 01-836 6633.

Copyright © 1976 by the *British Journal of Pharmacology*. All rights of reproduction are reserved in respect of all papers, articles, illustrations, etc., published in this journal in all countries of the world.

Second class postage paid at New York, N.Y.
US Mailing Agent, Expeditors of the Printed Word, Ltd,
527 Madison Avenue, New York, NY 10022.

British Journal of Pharmacology

INDEX (1966-1973)

The eight year cumulative index (1966-1973) to the British Journal of Pharmacology is now available.

Price £10.45 (including postage)

Available from:

DEPARTMENT AS11,
MACMILLAN JOURNALS LTD.,
BRUNEL ROAD,
BASINGSTOKE, RG21 2XS,
HAMPSHIRE, ENGLAND.

Orders must be accompanied by remittance. Cheques should be made payable to Macmillan Journals Ltd. Payment may be made in any currency at the current exchange rate.

DRUGS AND CENTRAL SYNAPTIC TRANSMISSION

Edited by P. B. Bradley
and B. N. Dhawan

Macmillan Pharmacology Monographs

Even though drugs have been used as research tools in pharmacological, physiological and neurochemical studies for a long time, the symposium reported in this book was perhaps the first interdisciplinary meeting where this particular use of drugs was the main theme. Disciplines represented include electrophysiology, neurochemistry, biochemistry and behavioural sciences.

about £12.50 May 1976

For further details please write to Anne Calcott, The Macmillan Press, Little Essex Street, London WC2R 3LF.



British Journal of Pharmacology

British Journal of Pharmacology provides up-to-date research on all aspects of drug action essential to those involved in pharmacology. Ensure you receive this information each month by taking a subscription.

Subscription Dept, Macmillan Journals Ltd, Brunel Road, Basingstoke, Hants RG21 2XS, England.

Please enter me for a year's subscription to the BRITISH JOURNAL OF PHARMACOLOGY starting with the issue dated

I enclose payment of £45.00 (USA & Canada \$99. Rest of world \$92).

Prices correct at time of publication. Payment may be made in any currency at the current exchange rates. Orders can only be processed if accompanied by the correct remittance. Cheques should be made payable to Macmillan Journals Ltd.

Name

Address

.

.

.

British Journal of Pharmacology

EDITED FOR
THE BRITISH PHARMACOLOGICAL SOCIETY
BY

A. W. Cuthbert (*Chairman*) H. M. Adam (*Secretary*)
Margaret Day (*Press Editor*)
J. D. Stephenson (*Assistant Press Editor*)

A. M. Barrett	J. S. Kelly
W. G. Bisset	G. M. Lees
T. B. Bolton	G. P. Lewis
D. A. Brown	I. H. M. Main
D. A. Callingham	E. K. Matthews
T. J. Crow	J. F. Mitchell
F. de Matteis	P. A. Nasmyth
C. T. Dollery	M. W. Parkes
V. Eisen	M. Sandler
E. W. Gill	A. P. Silverman
A. F. Green	M. A. Simmonds
D. F. Hawkins	F. M. Sullivan
Margarethe Holzbauer	A. Ungar
D. B. Hope	R. A. Webster

VOLUME 58, 1976

LONDON
MACMILLAN JOURNALS LIMITED
4 LITTLE ESSEX STREET, WC2R 3LF

INSTRUCTIONS TO AUTHORS

Papers will be considered for publication on all aspects of drug action, including chemotherapy. A recent issue of the Journal is a good guide to style.

Manuscripts (two copies) should be sent to Dr H.M. Adam, Department of Pharmacology, University of Edinburgh Medical School, 1 George Square, Edinburgh, EH8 9JZ, from whom copies of the full Instructions to Authors, published in *Br. J. Pharmac.* **50**, 3-23, may also be obtained. Specific points to note are:

1. **Manuscript** should be typed in double spacing on one side of paper not larger than A4 (206 x 294 mm). There should be a separate title page giving the names and addresses of the authors in **alphabetical order**. A short title of not more than 50 letters should also be suggested.
2. **Statement** Papers are accepted only if accompanied by a statement that they have not been and will not be published in whole or in part in any other Journal.
3. **Summary** (2 copies) This should be a short summary of results and conclusions arranged in numbered paragraphs.
4. **Abstract** (2 copies) An abstract of about 100 words suitable for inclusion in an abstracting journal should be typed on a separate sheet, giving the author's name and address and the title of the paper.
5. **Figures** These should not be larger than A4 (206 x 294 mm) and may be in the form of original drawings, recorded tracings or high quality photographic prints made from them. Negative prints of kymograph tracings (black on white) should be provided, and both ordinates and abscissae should be calibrated. Lettering on figures should be inserted in pencil. Symbols which are to appear in figures or legends should be chosen from the following:

○ ● □ ■ △ ▲ ▽ ▼

Photographs and photomicrographs should be printed on glossy paper and should be larger than the size required for reproduction.

6. **Tables** These should not have more than 85 characters to a line (counting spaces between columns as 4 characters) and certainly not more than 110 characters to a line, unless absolutely unavoidable. **Figure legends** and **tables** should be typed on separate sheets of paper.
7. **References** These should be collected in alphabetical order at the end of the paper. They should include the authors' names, year of publication (in brackets), title of article, title of publication (abbreviated in accordance with the fourth edition of the *World List of Scientific Periodicals*), volume number and first and last page numbers. References to books should in addition, include the names of editors, the edition number, where appropriate, and the town of origin and name of publisher.

Two page proofs will be supplied, one of which may be retained by the authors. The other should be corrected immediately and returned to the Press Editor. Corrections should be kept to a minimum.

Twenty-five reprints will be supplied to the authors free of charge. Additional reprints can be purchased. A reprint order form, which should be returned promptly, will be sent out with the proofs. No reprints of abstracts are supplied.

Short Communications These may be accepted if they merit priority publication and do not require revision. They may contain up to 1,200 words of text and only one figure or table. The summary should be a single paragraph. An abstract and statement should be included.

- 3 BUDNY, J., DOW, R.C., ECCLESTON, D., HILL, K.G. & RITCHIE, ISOBEL M. A comparison of D and L-tryptophan on the cerebral metabolism of 5-hydroxytryptamine and dopamine in the dog
- 9 COLLIER, H.O.J., HAMMOND, M.D. & SCHNEIDER, C. Effects of drugs affecting endogenous amines or cyclic nucleotides on ethanol withdrawal head twitches in mice
- 17 LUNDELL, L., SVENSSON, S.E. & NILSSON, G. Further studies on the mode of action of isoprenaline on gastric secretion in the conscious rat
- 27 TURNBULL, M.J. & WATKINS, J.W. Determination of halothane-induced sleeping time in the rat: effect of prior administration of centrally active drugs
- 37 DAVE, K.C. & DHATTIWALA, A.S. Adrenoceptors of the guinea-pig urinary bladder
- 43 HÖGLUND, ELIN, WESTLING, H. & WHITE, T. Circulatory effects of oral and subcutaneous administration in normal subjects of a new bronchodilator ibuterol, a pro-drug to terbutaline
- 47 GILLESPIE, J.S. & TILMISANY, A.K. The action of tetraethylammonium chloride on the response of the rat anococcygeus muscle to motor and inhibitory nerve stimulation and to some drugs
- 57 ROBERTS, FIONA & STEPHENSON, R.P. The kinetics of competitive antagonists on guinea-pig ileum
- 71 LULICH, K.M., MITCHELL, H.W. & SPARROW, M.P. The cat lung strip as an *in vitro* preparation of peripheral airways: a comparison of β -adrenoceptor agonists, autacoids and anaphylactic challenge on the lung strip and trachea
- 81 BEAL, A.M. The effect of high rates of vasopressin administration on renal potassium and sodium excretion during potassium loading in the sheep
- 89 BROADLEY, K.J. The release of a coronary vasodilator metabolite from the guinea-pig isolated perfused heart stimulated by catecholamine histamine and electrical pacing and by exposure to anoxia
- ✓101 JHAMANDAS, K. & SUTAK, Morphine-naloxone interaction in the central cholinergic system: the influence of subcortical lesioning and electrical stimulation
- 109 EVANS, R.H. & SMITH, J.W. The effect of catecholamines on the influx of calcium and development of tension in denervated mouse diaphragm muscle
- ✓117 TAYLOR, M. Effects of L-tryptophan and methionine on activity in the rat
- ✓121 TODA, N. Influence of dopamine and adrenaline on isolated cerebral arteries of the cat
- 127 RICHARDSON, P.D.I. The actions of natural secretin on the small intestinal vasculature of an anaesthetized cat
- 137 BOREHAM, P.F.L. & WRIGHT, I. Hypotension in rabbits infected with *Trypanosoma brucei*
- 141 CREESE, R. & MACLAGAN, JENNIFER. Labelled decamethonium in cat muscle
- 149 BUNCE, K.T., PARSONS, M.E. & ROLLIN, NITA A. The effect of metiamide on acid secretion stimulated by gastrin, acetylcholine and dibutyryl cyclic adenosine 3',5'-monophosphate in isolated whole stomach of the rat

SHORT COMMUNICATION

- 157 BROWN, D.A. & GARTHWAITE, HAYASHI, E. & YAMADA, S. Action of surugatoxin on nicotinic receptors in the superior cervical ganglion of the rat