BRITISH JOURNAL OF PHARMACOLOGY AND CHEMOTHERAPY

EDITED FOR

THE BRITISH PHARMACOLOGICAL SOCIETY

RY

H. M. ADAM A. S. V. BURGEN F. HAWKING P. HEY E. W. HORTON
G. P. LEWIS J. L. MONGAR W. E. ORMEROD A. SPINKS
H. STIENBERG J. R. VANE MARTHE VOGT M. WEATHERALL
J. G. WIDDICOMBE

G. S. DAWES (Chairman) R. S. STACEY (Secretary)

J. R. HODGES (Press Editor)

In co-operation with the EDITOR of the British Medical Journal

VOLUME 26, 1966

LONDON

BRITISH MEDICAL ASSOCIATION

TAVISTOCK SQUARE, W:C.1

NOTICE TO CONTRIBUTORS. The journal, which appears two-monthly, publishes original work in pharmacology and experimental chemotherapy, including the biochemical and pathological aspects of the subject MSS. submitted for publication should be addressed to the Secretary to the Editorial Board, Prof. R. S. Stacey, Department of Pharmacology, St. Thomas's Hospital, London S.E.1. Papers submitted to the journal are only accepted on the understanding that they are subject to editorial revision and that they have not been and will not be published in whole or in part in any other journal. When submitting a paper for publication, author(s) should include a statement to this effect.

 \P preparation of MSS. and illustrations. Authors are recommended to consult the current number of the journal before preparing a MS. so that the presentation of their paper follows current practice of the journal. Foreign-speaking contributors are advised, where possible, to seek the help of some British pharmacologist, known to them, in revising manuscripts before submission. Text and Tables should be in double-spaced typing on one side only of quarto or foolscap sheets with a margin of not less than 1½ in. on the left. The title, the name(s) and address(es) of the author(s) and a suggested short title should be typed on the first sheet. Where there is more than one author their names shall be printed in alphabetical order. The text should then start on a separate sheet. In stating the object, reference should only be made to previous work if it has a direct bearing on the subject. The paper should end with a summary of the author's results and conclusions, presented in numbered paragraphs, and not more than one-twentieth of the total length of the paper. Authors should also send an abstract of about 100 words suitable for inclusion in International Abstracts of Biological Sciences. Papers must be as concise as possible, but only recognized physical and chemical abbreviations may be used. All other names must be given in full. Abbreviations consisting of initial letters of words, etc., should not be used. Official or approved names should always be used, but, when these are not available, chemical or trade-names may be employed. On first mention, trade-names, serial numbers, etc., must be defined in terms of chemical names. The contributor should consider whether concentrations of solutions might be best stated in terms of weight per volume or molarity. Where comparisons are made it is often advisable to use molarities. Reference to other work should always give the author's name followed by the year of publication; more than one paper in one year being indicated by a small letter (a, b, c) after the date. On first reference to work by three or more authors, all the surnames should be given in full, but subsequently only the surname of the first author followed by et al. and the date is necessary. Footnotes and notes added in proof should be avoided.

¶ TABLES. Tables are referred to in the text by Arabic numerals and each must be typed on a separate sheet. Tables should be comprehensible without reference to the text. Explanations should follow the heading of the Table. Footnotes are not used.

¶ ILLUSTRATIONS. Illustrations are referred to in the text by Arabic numerals. The legend for each is to be typed on a separate sheet, numbered correspondingly, and should make the illustration understandable independently of the text. Line drawings and graphs are to be carefully and boldly drawn in Indian ink, on tracing linen, or Bristol board, or stout smooth white paper; blue-lined graph paper of good quality may be used for graphs. All lettering and numerals must be written lightly but legibly in pencil. Where desirable, kymograph tracings should be calibrated in both dimensions. Symbols which are to appear in the legend should be chosen from the following: x + ◆ ○ ■ □ ▲ ▼ ▼ ● ● ◆ ◆

The original drawing, or a full size high quality photograph of it, should always be sent. Small photographic copies are useful to the editors, but are insufficient by themselves. Originals should be about two to three times the suggested final size, and in no case larger than foolscap for ease in sending through the post. Mounted originals of kymograph tracings, rather than copies, should be sent, as should those of x-ray or other illustrations for half-tone reproduction. Photographs and photomicrographs should be printed on glossy paper and should be larger than the size desired for reproduction; particular care must be taken to ensure adequate definition, contrast, etc., in the prints submitted.

¶ REFERENCES. References should be arranged according to the Harvard system at the end of the paper in the alphabetical order of the names of the first author of each paper, and should include: author's name, followed by initials; year of publication in parentheses; title of article; title of publication, underlined, and abbreviated in accordance with the World Medical Periodicals (3rd ed.); volume number in Arabic numerals, underlined with a wavy line to indicate bold type; the number of the first and last page in Arabic numerals. The reference will then appear in type thus:

Burn, J. H. & Rand, M. J. (1958). The depressor action of dopamine and adrenaline. *Brit. J. Pharmacol.*, 13, 471-479.

When reference is made to a book, the author's name and the year should be followed by: title (underlined); editor's name and volume number or edition (if appropriate); page (p. or pp.); town of origin; publisher. The reference will appear in type thus:

CLARK, A. J. (1940). Applied Pharmacology, 7th ed., p. 378. London: Churchill.

¶ PROOFS. Two page proofs will be supplied, one of which may be retained by the author. Authors are requested to read their proofs immediately on receipt, correct in pencil, and return them at once to the Press Editor. It is assumed that all but verbal corrections have been made in the original MS.: an allowance of eightpence/page is made for alterations in the proof (printer's errors excepted) and contributors will be charged for any excess.

¶ REPRINTS. Fifty reprints of an article will, if desired, be given to an author or divided among the authors. Additional reprints at cost price can be supplied if application is made on the postcard sent out with the proofs or to the publishers.

NOTICE TO ADVERTISERS. Applications for advertisement space and for rates should be addressed to the Advertisement Manager, *British Journal of Pharmacology and Chemotherapy*.

NOTICE TO SUBSCRIBERS. The Editorial Board have decided that, due to the increased number of acceptable papers, it will be necessary to publish an additional volume in 1966. Each volume will contain three numbers (as at present) and the charge per volume will remain unchanged. The annual subscription rate in 1966 is therefore £15 15s. in the United Kingdom and Republic of Ireland, and £16 10s. (U.S.A. \$48.00) in all countries overseas.

Payment for overseas subscriptions should be made in sterling, i.e., £16 10s., and sent by Mail Transfer—Charges Remitter—through a Bank, payable to the British Medical Association. Orders can also be placed locally through any leading subscription agent or bookseller. (For the convenience of readers in the U.S.A. subscription orders, with or without payment, can be sent to: British Medical Journal, 80 Brighton Avenue, Boston, Mass. 02134. All enquiries, however, must be addressed to the Publisher in London.)

COPYRIGHT © 1966 by the British Journal of Pharmacology and Chemotherapy. All rights of reproduction are reserved in respect of all papers, articles, illustrations, etc., published in this journal in all countries of the world.

BRITISH JOURNAL OF PHARMACOLOGY AND CHEMOTHERAPY JANUARY, 1966. Vol. 26. No. 1.

CONTENTS

	PAG
JOHN HENRY GADDUM: OBITUARY	
BENFEY, B. G. AND VARMA, D. R. ANTISYMPATHOMIMETIC AND ANTIFIBRILLATORY EFFECTS OF PRONETHALOL AND PROPRANOLOL	;
MACKAY, D. A GENERAL ANALYSIS OF THE RECEPTOR-DRUG INTERACTION	9
LOCHNER, W. AND PARRATT, J. R. A COMPARISON OF THE EFFECTS OF LOCALLY AND SYSTEMICALLY ADMINISTERED KININS ON CORONARY BLOOD FLOW AND MYOCARDIAL METABOLISM	13
FORMANEK, K. AND KENNER, T. SPECIAL FEATURES OF THE ACTION OF A NEW DIURETIC	2
HARGREAVES, T. THE EFFECT OF MALE FERN EXTRACT ON BILIARY SECRETION	34
SHAPERO, M. AND WILSON, CATHERINE. THE EFFECT OF CINNAMOHYDROXAMIC ACID ON THE CENTRAL	_
NERVOUS SYSTEM	4
CLARKSON, T. W. AND GREENWOOD, M. THE MECHANISM OF ACTION OF MERCURIAL DIURETICS IN RATS; THE RENAL METABOLISM OF p-CHLOROMERCURIBENZOATE AND ITS EFFECTS ON URINARY EXCRETION	50
BEBBINGTON, A., BRIMBLECOMBE, R. W. AND SHAKESHAFT, D. THE CENTRAL AND PERIPHERAL ACTIVITY OF ACETYLENIC AMINES RELATED TO OXOTREMORINE	5
BEBBINGTON, A., BRIMBLECOMBE, R. W. AND ROWSELL, D. G. THE INTERACTION OF MUSCARINIC DRUGS WITH THE POSTGANGLIONIC ACETYLCHOLINE RECEPTOR	6
FISHLOCK, D. J. AND PARKS, A. G. THE ACTION OF NICOTINE ON THE CIRCULAR MUSCLE OF THE HUMAN ILEUM AND COLON IN VITRO	79
LEGGE, K. F., RANDIĆ, MIRJANA AND STRAUGHAN, D. W. THE PHARMACOLOGY OF NEURONES IN THE PYRIFORM CORTEX	8
CHILD, K. J. AND DODDS, M. G. MECHANISM OF URINARY EXCRETION OF CEPHALORIDINE AND ITS EFFECTS ON RENAL FUNCTION IN ANIMALS	10
BLACKWELL, B. AND MARLEY, E. INTERACTIONS OF CHEESE AND OF ITS CONSTITUENTS WITH MONOAMINE OXIDASE INHIBITORS	120
BLACKWELL, B. AND MARLEY, E. INTERACTIONS OF YEAST EXTRACTS AND THEIR CONSTITUENTS WITH MONOAMINE OXIDASE INHIBITORS	14:
ABBS, E. T. THE RELEASE OF CATECHOL AMINES BY CHOLINE 2,6-XYLYL ETHER, BRETYLIUM AND GUANETHIDINE	16
HAEFELY, W., HÜRLIMANN, A. AND THOENEN, H. THE EFFECT OF STIMULATION OF SYMPATHETIC NERVES IN THE CAT TREATED WITH RESERPINE, a-METHYLDOPA AND a-METHYLMETATYROSINE.	17
ABDUL HAMEED, J. M. AND HALEY, T. J. PSYCHO-SEDATIVE PROPERTIES OF THREE INDOLYL-BTHYL-PIPERAZINE DERIVATIVES	18
KAYAALP, S. O. AND KAYMAKÇALAN, Ş. A COMPARATIVE STUDY OF THE EFFECTS OF MORPHINE IN UNANAESTHETIZED AND ANAESTHETIZED CATS	19
EAKINS, K. E. AND KATZ, R. L. THE ACTION OF SUCCINYLCHOLINE ON THE TENSION OF EXTRAOCULAR MUSCLE	20
ELLARD, G. A. Absorption, metabolism and excretion of di(p-aminophenyl) sulphone (dapsone) and di(p-aminophenyl) sulphoxide in man	21
KUPERMAN, A. S. AND OKAMOTO, M. A COMPARISON BETWEEN THE EFFECTS OF TETRAETHYLAMMONIUM AND TRIETHYL-(3-HYDROXYPHENYL)AMMONIUM ON FROG NEUROMUSCULAR TRANSMISSION	21
BERGMANN, F., ISHAY, I. AND KIDRON, MIRIAM. PHARMACOLOGICALLY ACTIVE SUBSTANCES IN THE FAECES OF THE ORIENTAL WASP, VESPA ORIENTALIS, F.	229
FAHIM, I., ROBSON, J. M. AND SENIOR, JUDITH B. THE 5-HYDROXYTRYPTAMINE CONTENT OF THE PLACENTA, FOETUS AND SOME MATERNAL TISSUES DURING PREGNANCY IN THE RAT.	23
SHILLITO, ELIZABETH E. A METHOD FOR RECORDING THE EFFECT OF DRUGS ON THE ACTIVITY OF SMALL MAMMALS OVER LONG PERIODS OF TIME	248
MILTON, A. S. THE EFFECT OF NICOTINE ON BLOOD GLUCOSE LEVELS AND PLASMA NON-ESTERIFIED FATTY ACID LEVELS IN THE INTACT AND ADRENALECTOMIZED CAT	250
FIELDEN, R. AND GREEN, A. L. STUDIES ON THE ANTAGONISM BETWEEN THE OPTICAL ISOMERS OF N-(1-phenylethyl)guanidine	26
SPRIGGS, T. L. B. PERIPHERAL NORADRENALINE AND ADRENERGIC TRANSMISSION IN THE RAT.	27
FAWAZ, G. THE MECHANISM BY WHICH NORADRENALINE RESTORES THE PRESSOR ACTION OF INDIRECTLY ACTING SYMPATHOMIMETIC AMINES IN RESERVINIZED DOGS	28