

# BRITISH JOURNAL OF PHARMACOLOGY AND CHEMOTHERAPY

EDITED FOR  
THE BRITISH PHARMACOLOGICAL SOCIETY  
BY

H. M. ADAM   A. S. V. BURGEN   F. HAWKING   P. HEY   E. W. HORTON  
G. P. LEWIS   J. L. MONGAR   W. E. ORMEROD   J. M. ROBSON  
J. W. THOMPSON   J. R. VANE   MARTHE VOGT   M. WEATHERALL   R. WIEN  
G. S. DAWES (Chairman)   J. M. WALKER (Secretary)  
J. G. WIDDICOMBE (Press Editor)   JOAN C. MOTT (Assistant Press Editor)

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

VOLUME 24, 1965

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, Dr. J. M. Walker, Department of Pharmacology, South Parks Road, Oxford. 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only accepted on the understanding that they are subject to editorial revision, and that they have not been and will not be published in whole or in part in any other journal.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.

¶ **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:

× + ● ○ ■ □ △ ▲ ▽ ▼ ● ○ ◇ ◆

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 annual subscription rate is £10 10s. in the United Kingdom and the Republic of Ireland, and £11 in all countries overseas.

The following are examples of equivalents to the sterling subscription rate: Australia £A.13 15s.; Belgium Fr. 1,540; Canada \$34.00; Denmark Kr. 212.75; France NF. 152.00; Germany DM. 123.25; India and Pakistan R. 150.00; Italy L. 19,250; Japan Yen 11,088; Netherlands G. 111.50; Norway Kr. 220.00; South Africa Rand 22.00; Spain Pta. 1,848; Sweden Kr. 159.00; Switzerland Fr. 134.75; U.S.A. \$32.00; Venezuela Bol. 102.75. Payment for overseas subscriptions should be made in sterling, i.e. £11, and sent by Mail Transfer—*Charges Remitter*—through a Bank, payable to the British Medical Association. Orders can be placed locally through any leading subscription agent or bookseller.

**COPYRIGHT © 1965** 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

## FEBRUARY, 1965. Vol. 24. No. 1.

### CONTENTS

	PAGE
CLARKSON, T. W., ROTHSTEIN, A. AND SUTHERLAND, R. THE MECHANISM OF ACTION OF MERCURIAL DIURETICS IN RATS; THE METABOLISM OF <sup>203</sup> Hg-LABELLED CHLORMERODRIN . . . . .	1
DICKINS, D. W., LADER, M. H. AND STEINBERG, HANNAH. DIFFERENTIAL EFFECTS OF TWO AMPHETAMINE-BARBITURATE MIXTURES IN MAN . . . . .	14
FOX, B. W. AND JACKSON, H. IN VIVO EFFECTS OF METHYLENE DIMETHANESULPHONATE ON PROLIFERATING CELL SYSTEMS . . . . .	24
DAVEY, M. J. AND REINERT, H. PHARMACOLOGY OF THE ANTIHYPERTENSIVE GUANOXAN . . . . .	29
LESSIN, A. W., LONG, R. F. AND PARKES, M. W. CENTRAL STIMULANT ACTIONS OF $\alpha$ -ALKYL SUBSTITUTED TRYPTAMINES IN MICE . . . . .	49
LESSIN, A. W., LONG, R. F. AND PARKES, M. W. THE EFFECTS OF $\alpha$ -ALKYL SUBSTITUTED TRYPTAMINES ON 5-HYDROXYTRYPTAMINE UPTAKE BY BLOOD PLATELETS . . . . .	68
ELLIOTT, R. C. CENTRALLY ACTIVE DRUGS AND TRANSMISSION THROUGH THE ISOLATED SUPERIOR CERVICAL GANGLION PREPARATION OF THE RABBIT WHEN STIMULATED REPETITIVELY . . . . .	76
SHAND, D. G. THE MODE OF ACTION OF DRUGS BLOCKING GANGLIONIC TRANSMISSION IN THE RAT . . . . .	89
BOWMAN, W. C. AND RAPER, C. THE EFFECTS OF SYMPATHOMIMETIC AMINES ON CHRONICALLY DENERVATED SKELETAL MUSCLES . . . . .	98
BOWMAN, W. C. AND HEMSWORTH, B. A. EFFECTS OF TRIETHYLCHOLINE ON THE OUTPUT OF ACETYLCHOLINE FROM THE ISOLATED DIAPHRAGM OF THE RAT . . . . .	110
MALHOTRA, C. L. AND PUNDLIK, P. G. THE EFFECT OF RESERPINE ON THE ACETYLCHOLINE CONCENTRATION IN HYPOTHALAMUS, ILEUM, AND HEART OF THE DOG AFTER BILATERAL VAGOTOMY AND GANGLIONIC BLOCKADE . . . . .	119
RICHARDS, W. H. G. PHARMACOLOGICALLY ACTIVE SUBSTANCES IN THE BLOOD, TISSUES AND URINE OF MICE INFECTED WITH TRYPA NOSOMA BRUCEI . . . . .	124
KRSTIĆ, M. AND VARAGIĆ, V. DIFFERENCE BETWEEN THE BLOOD PRESSURE RESPONSES TO INTRAJUGULAR AND INTRACAROTID INJECTIONS OF PHYSOSTIGMINE, AND THE SYNDROME OF CONTRALATERAL TORSION IN THE RAT . . . . .	132
BUCKETT, W. R. AND HAINING, C. G. SOME PHARMACOLOGICAL STUDIES ON THE OPTICALLY ACTIVE ISOMERS OF HYOSCINE AND HYOSCYAMINE . . . . .	138
BENNETT, A. THE METABOLISM OF HISTAMINE BY GUINEA-PIG AND RAT LUNG IN VITRO . . . . .	147
BOTTING, J. H. AN ISOLATED PREPARATION WITH A SELECTIVE SENSITIVITY TO VASOPRESSIN . . . . .	156
FERREIRA, S. H. A BRADYKININ-POTENTIATING FACTOR (BPF) PRESENT IN THE VENOM OF BOTHROPS JARARACA . . . . .	163
NEAL, M. J. THE HYPERALGESIC ACTION OF BARBITURATES IN MICE . . . . .	170
HUKOVIĆ, S., RAND, M. J. AND VANOV, S. OBSERVATIONS ON AN ISOLATED, INNERVATED PREPARATION OF RAT URINARY BLADDER . . . . .	178
AYLIFFE, G. A. J. AND DAVIES, A. AMPICILLIN LEVELS IN HUMAN BILE . . . . .	189
LARGE, B. J. SYMPATHETIC $\beta$ -RECEPTORS AND THE GUINEA-PIG VAS DEFERENS . . . . .	194
NISSIM, J. A. THE STUDY AND ASSAY OF SUBSTANCES AFFECTING INTESTINAL ABSORPTION IN THE MOUSE . . . . .	205
HARRIS, E. A. AND SLAWSON, K. B. THE RESPIRATORY EFFECTS OF THERAPEUTIC DOSES OF CYCLOBARBITONE, TRICLOFOS AND ETHCHLORVYNOL . . . . .	214
KUPERMAN, A. S. AND OKAMOTO, M. A COMPARISON OF THE EFFECTS OF SOME ETHONIUM IONS AND THEIR STRUCTURAL ANALOGUES ON NEUROMUSCULAR TRANSMISSION IN THE CAT . . . . .	223
BHATTACHARYA, B. K. AND SEN, A. B. CHEMOTHERAPEUTIC PROPERTIES OF SOME NEW QUATERNARY AMMONIUM COMPOUNDS; THEIR CESTICIDAL ACTION AGAINST HYMENOLEPTIS NANA . . . . .	240
HORITA, A. THE INITIAL INACTIVATION OF PHENELZINE BY A MONOAMINE OXIDASE-LIKE SYSTEM IN VITRO AND IN VIVO . . . . .	245
PENN, R. G. SOME FACTORS INFLUENCING THE RECOVERY OF ISOLATED MYOCARDIUM FROM ACUTE ANOXIA . . . . .	253
BUZARD, J. A. AND CONKLIN, J. D. A COMPARISON OF THE CONCENTRATIONS OF CERTAIN NITROFURANS IN THE AQUEOUS HUMOUR AND CEREBROSPINAL FLUID OF THE DOG . . . . .	266
ANGELUCCI, R., ARTINI, D., CRESSERI, A., GIRALDI, P. N., LOGEMANN, W., NANNINI, G. AND VALZELLI, G. SOME ASPECTS OF THE METABOLISM OF TRIAZINE DERIVATIVES ACTIVE IN EXPERIMENTALLY INDUCED VIRUS INFECTIONS . . . . .	274
BARZAGHI, F., MANTEGAZZA, P. AND RIVA, M. EFFECTS OF SOME NN-DISUBSTITUTED GUANIDINES ON NEUROMUSCULAR AND GANGLIONIC TRANSMISSION . . . . .	282
ASATOOR, A. M., GALMAN, B. R., JOHNSON, J. R. AND MILNE, M. D. THE EXCRETION OF DEXAMPHETAMINE AND ITS DERIVATIVES . . . . .	293