## BRITISH JOURNAL OF PHARMACOLOGY AND CHEMOTHERAPY

## EDITED FOR THE BRITISH PHARMACOLOGICAL SOCIETY

BY

H. M. ADAM H. BLASCHKO F. HAWKING P. HEY E. W. HORTON

- G. P. LEWIS W. E. ORMEROD J. P. QUILLIAM J. M. ROBSON
  R. S. STACEY J. R. VANE 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 20, 1963

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. Short papers and brief notes on methods may also be accepted. 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 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 11 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. there is more than one author their names shall be printed in alphabetical order. This should be followed by a brief but self-explanatory summary in abstract form on a separate sheet giving the main results and conclusions. 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. 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., are not acceptable. 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:

 $X + \bullet \bigcirc \blacksquare \Box \triangle A \triangledown \blacktriangledown \bullet \bigcirc \diamondsuit$ 

The original drawing should always be sent. 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 (2nd 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 £6 6s. in the United Kingdom and the Republic of Ireland, and £7 in all countries overseas.

The following are examples of equivalents to the sterling subscription rate: Australia £A.8 15s.; Belgium Fr. 975.00; Canada \$21.50; Denmark Kr. 135.75; France NF. 96.00; Germany DM. 78.75; India and Pakistan R. 93.50; Italy L. 12,200; Japan Yen 7,000; Netherlands G. 70.75; Norway Kr. 140.25; South Africa Rand. 14.00; Spain Pta. 1,175; Sweden Kr. 101.25; Switzerland Fr. 85.75; U.S.A. \$20.00; Venezuela Bol. 88.50. Payment for overseas subscriptions should be made in sterling, i.e. £7, 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 © 1963 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, 1963. Vol. 20. No 1.

## **CONTENTS**

	PAGE
THE BRITISH PHARMACOLOGICAL SOCIETY, PROGRAMME OF MEETING, JANUARY 2 to 4	1
BLACKMAN, J. G. STIMULUS FREQUENCY AND NEUROMUSCULAR BLOCK	5
DAY, M. D. AND RAND, M. J. EVIDENCE FOR A COMPETITIVE ANTAGONISM OF GUANETHI- DINE BY DEXAMPHETAMINE	17
ARORA, R. B. AND MATHUR, C. N. RELATIONSHIP BETWEEN STRUCTURE AND ANTI- COAGULANT ACTIVITY OF COUMARIN DERIVATIVES	29
BOURA, A. L. A. AND GREEN, A. F. ADRENERGIC NEURONE BLOCKADE AND OTHER ACUTE EFFECTS CAUSED BY N-BENZYL-N'N"-DIMETHYLGUANIDINE AND ITS ORTHO-CHLORO DERIVATIVE	36
BHAGAT, B. AND SHIDEMAN, F. E. MECHANISM OF THE POSITIVE INOTROPIC RESPONSES TO BRETYLIUM AND GUANETHIDINE	56
BLABER, L. C. FACILITATION OF NEUROMUSCULAR TRANSMISSION BY ANTICHOLINESTERASE DRUGS	63
BURN, J. H. AND WEETMAN, D. F. THE EFFECT OF ESERINE ON THE RESPONSE OF THE VAS DEFERENS TO HYPOGASTRIC NERVE STIMULATION	74
BURN, J. H., RAND, M. J. AND WIEN, R. THE ADRENERGIC MECHANISM IN THE NICTITATING MEMBRANE	83
ASHFORD, A. and JONES, J. I. M. The assay of corticotrophin in hypophysectomized and in hydrocortisone-treated rats	95
RUSHTON, RUTH, STEINBERG, HANNAH AND TINSON, CHRISTINE. EFFECTS OF A SINGLE EXPERIENCE ON SUBSEQUENT REACTIONS TO DRUGS	99
CORNE, S. J., PICKERING, R. W. AND WARNER, B. T. A METHOD FOR ASSESSING THE EFFECTS OF DRUGS ON THE CENTRAL ACTIONS OF 5-HYDROXYTRYPTAMINE	106
DAVEY, M. J., FARMER, J. B. AND REINERT, H. THE EFFECTS OF NIALAMIDE ON ADRENERGIC FUNCTIONS	121
LEES, P. AND LOCKETT, MARY F. A STUDY OF THE $\beta$ -ADRENERGIC RECEPTORS IN RAT KIDNEYS	135
ANDERTON, J. L. AND HARRIS, E. A. VENTILATORY EFFECTS OF PRETHCAMIDE IN HEALTHY YOUNG MEN	139
DAY, MARGARET AND VANE, J. R. AN ANALYSIS OF THE DIRECT AND INDIRECT ACTIONS OF DRUGS ON THE ISOLATED GUINEA-PIG ILEUM	150
ABERCROMBIE, G. F. AND DAVIES, B. N. THE ACTION OF GUANETHIDINE WITH PARTICULAR REFERENCE TO THE SYMPATHETIC NERVOUS SYSTEM	171
SMITH, S. E. Uptake of 5-hydroxy[14C]tryptophan by rat and dog brain slices .	178
BOULLIN, D. J. PHARMACOLOGICAL RESPONSES OF THIAMINE-DEFICIENT RAT TISSUES	190
SHARMAN, D. F. A FLUORIMETRIC METHOD FOR THE ESTIMATION OF 4-HYDROXY-3-METHOXY-PHENYLACETIC ACID (HOMOVANILLIC ACID) AND ITS IDENTIFICATION IN BRAIN TISSUE.	204
TAKESHIGE, C. AND VOLLE, R. L. ASYNCHRONOUS POSTGANGLIONIC FIRING FROM THE CAT SUPERIOR CERVICAL SYMPATHETIC GANGLION TREATED WITH NEOSTIGMINE	214