# Edited for the British Pharmacological Society by

J.F. Mitchell (Chairman)

G.M. Lees (Secretary)

#### Margaret Day (Press Editor)

#### **EDITORIAL BOARD**

D.J. Back

Liverpool

T. Bennett

Nottingham

N.J.M. Birdsall

London A.F. Brading

Oxford

C.M. Bradshaw

Manchester K T Bunce

Ware

G. Burnstock

London

M.K. Church

Southampton M.G. Collis

Macclesfield

G.A. Cottrell

Fife

J.A.J.H. Critchley Edinburah

T.C. Cunnane Oxford

A.C. Dolphin

London W. Feniuk

Ware R.J. Flower

Bath

L.G. Garland Beckenham

A.R. Green

London M.C. Harris

Birmingham

G. Henderson Cambridge

C.R. Hiley

Cambridge R.G. Hill

Cambridge

R W Horton

London

P.P.A. Humphrey Ware

P.G. Jenner

Landon

Kathleen A. Kane

Glasgow

W.A. Large Londor

D. Lodge

London

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

Manuscripts (two copies) should be sent to Dr G.M. Lees, Editorial Office, British Journal of Pharmacology, University of Aberdeen, Marischal College, Aberdeen AB91AS. Authors should consult the instructions inside the back cover and Vol. 81, 415-422 (1984).

The British Journal of Pharmacology is published monthly by the Scientific & Medical Division, The Macmillan Press Ltd, Houndmills, Basingstoke, Hampshire RG21 2XS. Telephone: Basingstoke 29242. ISSN 0007-1188.

Registered Office: 4 Little Essex Street, London WC2R3LF

The journal is covered by Current Contents and Excerpta Medica

Annual subscription UK £215. Rest of world. £255 (or equivalent in any other currency). (Orders must be accompanied by remittance. Prices correct at time of publication)

J.C. McGrath

Glasgow A.T. McKnight

Harlow

R.J. Marshall

Newhouse

S.R. Nahorski

Leicester D.A.A. Owen

Welwyn Garden City

C.P. Page

London

B.K. Park

Liverpool

M.H.T. Roberts

Cardiff

P.J. Roberts

Southampton

C. Robinson

Southampton

M.A. Simmonds London

R.C. Small

Manchester

J.M. Sneddon

London

M. Spedding

Edinburgh T.L.B. Spriggs

Cardiff

I.P. Stolerman

London P.V. Taberner

Bristol

D.A. Terrar

Oxford

D.R. Tomlinson

Nottingham

M.B. Tyers

R.M. Wadsworth

Glasgow

D I Wallis

Cardiff

D.F. Weetman Sunderland

**B.J.R.** Whittle

Reckenham

T.J. Williams Harrow

G.N. Woodruff

Harlow

J.M. Young

Cambridge

Cheques should be made payable to Macmillan Journals Limited. All circulation, subscription or general enquiries should be sent to: The Macmillan Press Ltd, P.O. Box 500, Leicester, LE99 OAA, UK.

Overseas subscribers may make payments into UK Post Office Giro Account No. 519 2455. Full details must accompany the payment.

Second Class postage paid at New York, NY. US Mailing Agent: Expeditors of the Printed Word Ltd, 515 Madison Avenue, New York, NY 10022.

Enquiries concerning advertising space and rates should be addressed to: David R. Guthrie, Advertising Dept., The Macmillan Press Ltd, Brunel Road, Houndmills, Basingstoke, Hampshire, England RG21 2XS. Telephone: 0256 29242 Fax: 0256 479476

CORRESPONDING EDITORS

P.R. Adams

C.V. Wedmore (Assistant Press Editor)

Stony Brook, U.S.A.

K.P. Bhargava Lucknow India

C Rell

Melbourne, Australia

F.E. Bloom La Jolla, U.S.A.

A.L.A. Boura

Clayton, Australia

N.J. Dun

Maywood, U.S.A.

R.F. Furchgott

New York, U.S.A.

T. Godfraind

Brussels, Belgium

S.Z. Langer

Paris. France

R.J. Miller

Chicago, U.S.A.

R.C. Murphy

Denver, U.S.A. E. Muscholl

Mainz, F.R.G

R.A. North

Portland, U.S.A.

M. Otsuka

Tokyo, Japan

M.J. Rand

Melbourne, Australia

S. Rosell

Södertälje, Sweden P. Seeman

Toronto, Canada

L. Szekeres

Szeged, Hungary

B. Uvnas Stockholm, Sweden

P.A. Van Zwieten

Amsterdam, Netherlands

V.M. Varagič

Belgrade, Yugoslavia

G. Velo Verona, Italy

Wang Zhen Gang

Beijing, China M.B.H. Youdim Haifa, Israel

Publisher: Harry Holt. Production Services: Nigel McNeil-Smith. Advertising: David R. Guthrie. Promotion: Richard Gedye.

Circulation Services: A.L. Clark. C Copyright: Scientific & Medical Division, The Macmillan Press Ltd, 1988. All rights of reproduction are reserved in respect of all papers, articles, illustrations, etc., published in this journal in all

countries of the world. Authorization to photocopy items for internal or personal use, or the internal or personal use of specific clients, is granted by The Macmillan Press Ltd for libraries and other users registered with the Copyright Clearance Center (CCC) Transactional Reporting Service, provided that the base fee of \$1.00 per copy, plus \$0.10 per page is paid directly to CCC, 21 Congress St., Salem, MA 01970, USA.

0007-1188.88 \$1.00 + \$0.10

# MEETINGS CALENDAR

#### 15-19 August 1988

XVIth Congress of the Collegium Internationale Neuro-Psychopharmacologium, Munich, W. Germany. (Congress Management, Letzter Hasenpfad 61, D-6000 Frankfurt 70, Federal Republic of Germany.)

#### 21-24 August 1988

Satellite Symposium of 16th CINP Congress on Neurochemical Correlates of Affective Disorders, Copenhagen, Denmark (Dr. A. Geisler, Dept. of Pharmacology, University of Copenhagen, 20 Juliane Maries Veg, DK-2100 Copenhagen, Denmark.)

#### 22-26 August 1988

International Symposium on the Pharmacology of Thermoregulation, Odense, Denmark (Dr. O.A. Nedergaard, Dept. of Pharmacology, Odense University, J.B. Winslows Vej 19, DK-5000, Odense C, Denmark.)

#### 31 August-3 September 1988

European Behavioural Pharmacology Society, Athens, Greece. (Dr. C. Spyraki, Dept. of Pharmacology, National University of Athens Medical School, Gondi 11529, Athens, Greece.)

#### 1-2 September 1988

Symposium on Genetics, Biochemistry, Physiological Functions and Pharmacology of Alpha-1-Acid Glycoprotein, Lausanne, Switzerland. (P. Baumann, Clinique Psychiatrique Universitaire de Lausanne, CH-1008-Prilly-Lausanne.)

#### 1-3 September 1988

8th CIRD Symposium on Advances in Skin Pharmacology, Pharmacology of Retinoids in the Skin, Cannes, France (Dr. B. Shroot, CIRD, Sophia Antipolis F-06565 Valbonne, France).

#### 5-16 September 1988

NATO-ASI Course: Prostanoids and Drugs, Erice, Italy. (Prof. G. Folco, School of Pharmacy, University of Parma, Via Balzaretti 9, 20133 Milan, Italy)

#### 6-9 September 1988

11th International Subcellular Methodology Forum on Study of Cellular Roles of Calcium, Guildford, U.K. (Dr. E. Reid, Guildford Academic Associates, 72 The Chase, Guildford, UK.)

# 7–9 September 1988

British Pharmacological Society Autumn Meeting, Nottingham U.K. (Closed meeting for members and guests.)

#### 16-18 September 1988

MPTP-Sardinia '88: Degeneration and Regeneration Processes in CNS, Cagliari, Italy. (Prof. G.U. Corsini, Dept. of Neuroscience, University of Cagliari, Via Porcell 4, 091124 Cagliari, Italy.)

#### 21-23 September 1988

Biological Determinants of Drug Response in Man, Gothenburg, Sweden (Swedish Academy of Pharmaceutical Sciences, POB 1136, Sp111, 81 Stockholm, Sweden.)

#### 28-30 September 1988

Third International Conference on Drug Absorption, Edinburgh, Scotland. (Secretariat, EEP Consultants Ltd., 26–28 Albany Street, Edinburgh EH1 3QH).

#### 3-5 October 1988

Second International Conference on the Pharmacology of Cerebral Ischaemia, Marburg, FRG (Dr. J. Jennings, M & S Conferences Ltd., The Studio, 12 High Street, Wheathampstead, Herts., U.K.

## 3-5 October 1988

Symposium on Variability in Pharmacokinetics and Drug Response, Gothenburg, Sweden. (Swedish Academy of Pharmaceutical Sciences, P.O. Box 1136, S-111 81 Stockholm, Sweden.)

#### 5-7 October 1988

International Conference on the Cardiovascular Pharmacology of 5-HT, Amsterdam, Netherlands. (Dr. P. Bevan, 5-HT Congress, P.O. Box 2, 1380 AA Weesp, The Netherlands.)

#### 12-13 November 1988

Symposium on Nausea and Vomiting: a Multidisciplinary Perspective, Ottawa, Canada. (Dr. R.K. Harding, Physiology Dept., Ottawa University, 451 Smyth Road, Ottawa, Ontario, K1H 8M5, Canada.)

#### 19-21 December 1988

British Pharmacological Society Winter Meeting, London, U.K. (Closed meeting for members and guests.)

# 21 December 1988

Biochemical Society Neurochemical Group Colloquium on Receptor Structure and Gene Expression, London, U.K. (Dr. E.C. Hulme, NIMR, The Ridgeway, Mill Hill, London NW7 1AA).

## 29 March-1 April 1989

International Symposium on Serotonin, Florence, Italy. (Dr. F.M. Maggi, Institute of Pharmacological Sciences, University of Milan, Via Balzaretti 9, 20133 Milan, Italy).

#### 2-5 April 1989

Seventh National Meeting of the Brain Research Association, Sheffield, U.K. (Dr. N. Payne, Dept. of Anatomy, Sheffield University, Sheffield, U.K.)

# 5-7 April 1989

**British Pharmacological Society Spring Meeting**, Bristol, U.K. (Closed meeting for members and guests.)

#### 7 April 1989

British Pharmacological Society. Symposium on the NMDA Receptor, Bristol, U.K. (Dr. G.L. Collingridge, Department of Pharmacology, The Medical School, University of Bristol, Bristol, BS8 1TD, U.K.)

#### 22-26 May 1989

Second Meeting of the International Neurotoxicology Association, Barcelona, Spain. (Dr. E. Rodriquez Farre, Dept. of Pharmacology & Toxicology, CSIC, Jorge Girona Salgado, 18–26, E-08034, Spain).

# 12-14 July 1989

British Pharmacological Society Summer Meeting. Leeds, U.K. (Closed meeting for members and guests)

#### 16-21 July 1989

Vth International Congress of Toxicology, Brighton, U.K. (IUTOX '89, Congress House, 65 West Drive, Sutton, Surrey SH2 7NB, U.K.)

# 13-15 September 1989

British Pharmacological Society Autumn Meeting. Manchester, U.K. (Closed meeting for members and guests)

#### 3-5 January 1990

British Pharmacological Society Winter Meeting. London, U.K. (Closed meeting for members and guests)

#### 18-20 April 1990

British Pharmacological Society Spring Meeting. Sheffield, U.K. (Closed meeting for members and guests)

#### 29 May-1 June 1990

Fondazione Giovanni Lorenzini Conference on Prostaglandins and Related Compounds, Florence, Italy (Fondazione Giovanni Lorenzini, Via Monte Napoleone, 23, 20121 Milan, Italy.)

# 1-6 July 1990

IUPHAR 11th International Congress of Pharmacology, Amsterdam, Netherlands (Contact to be advised.)

The Indices to Volumes 93 and 94 together with the Cumulative Contents will be published with the December 1988 issue

# **British Journal of Pharmacology**

**VOLUME 94 NUMBER 4 AUGUST 1988** 

987 ELEVENTH GADDUM MEMORIAL LECTURE FLOWER, R.J. Lipocortin and the mechanism of action of the glucocorticoids

#### SHORT COMMUNICATIONS

- 1017 DE BELLEROCHE, J. & GARDINER, I.M. Inhibitory effect of 1,2,3,4-tetrahydro-9-aminoacridine on the depolarization-induced release of GABA from cerebral cortex
- 1020 HOGAN, J.C., LEWIS, M.J. & HENDERSON, A.H. In vivo EDRF activity influences platelet function

#### **PAPERS**

- 1023 SCARPIGNATO, C., GIOFFRÉ, M., GULINO, F.M. & MICALI, B. Different effects of bombesin on glucose- and tolbutamide-induced insulin release in man
- 1029 GRANTHAM, C.J. & BAKHLE, Y.S. Effect of acute lung injury on metabolism of adenine nucleotides in rat perfused lung
- 1037 KOSTRZEWSKA, A., LAUDÁNSKI, T. & BATRA, S. Effect of calcium and calmodulin antagonists on contractile responses of the human uterine artery
- 1043 CAMP, R.D.R., CUNNINGHAM, F.M., FINCHAM, N.J., GREAVES, M.W., KOBZA BLACK, A., MALLET, A.I. & WOOLLARD, P.M. Psoriatic skin lesions contain a novel lipid neutrophil chemokinetic compound which is distinct from known chemoattractant eicosanoids
- 1051 KUDO, Y., AKIYOSHI, E. & AKAGI, H. Identification of two taurine receptor subtypes on the primary afferent terminal of frog spinal cord
- 1057 CHAND, N., DIAMANTIS, W., MAHONEY, T.P. & SOFIA, R.D. Phospholipase A<sub>2</sub>-induced airway hyperreactivity to cooling and acetylcholine in rat trachea: pharmacological modulation
- 1063 IKEGUCHI, S., HASHIMOTO, S., HORIE, M., KADOYA, M., KONISHI, T. & KAWAI, C. Electrophysiological effects of melperone on isolated rabbit heart muscles
- 1069 BOWSER-RILEY, F., DANIELS, S. & SMITH, E.B. Investigations into the origin of the high pressure neurological syndrome: the interaction between pressure, strychnine and 1,2-propandiols in the mouse
- 1077 WINN, M.J., CHOLERTON, S. & PARK, B.K. An investigation of the pharmacological response to vitamin K, in the rabbit
- 1085 DALY, C.J., McGRATH, J.C. & WILSON, V.G. Evidence that the population of postjunctional-adrenoceptors mediating contraction of smooth muscle in the rabbit isolated ear vein is predominantly α<sub>2</sub>

- 1091 SMALL, R.C., BOYLE, J.P., CORTIJO, J., CURTIS-PRIOR, P.B., DAVIES, J.M., FOSTER, R.W. & HOFER, P. The relaxant and spasmogenic effects of some xanthine derivatives acting on guinea-pig isolated trachealis muscle
- 1101 CONNELL, L.A. & WALLIS, D.I. Responses to 5hydroxytryptamine evoked in the hemisected spinal cord of the neonate rat
- 1115 ANDERSON, G. & FENNESSY, M. Effects of REV 5901, a 5-lipoxygenase inhibitor and leukotriene antagonist, on pulmonary responses to platelet activating factor in the guinea-pig
- 1123 HUMPHREY, P.P.A., FENIUK, W., PERREN, M.J., CONNOR, H.E., OXFORD, A.W., COATES, I.H. & BUTINA, D. GR43175, a selective agonist for the 5-HT<sub>1</sub>-like receptor in dog isolated saphenous vein
- 1133 CALIXTO, J.B., PIZZOLATTI, M.G. & YUNES, R.A. The competitive antagonistic effect of compounds from *Mandevilla velutina* on kinin-induced contractions of rat uterus and guinea-pig ileum *in vitro*
- 1143 RAMPART, M. & WILLIAMS, T.J. Evidence that neutrophil accumulation induced by interleukin-1 requires both local protein biosynthesis and neutrophil CD18 antigen expression in vivo
- 1149 CORDER, R. & WITHRINGTON, P.G. The actions of neuropeptide Y and peptide YY on the hepatic arterial and portal vascular beds of the anaesthetized dog
- 1157 BECK, K., CALAMAI, F., STADERINI, G. & SUSINI, T. Gastric motor responses elicited by vagal stimulation and purine compounds in the atropine-treated rabbit
- 1167 ITO, K., HAYASHI, K., NAKASHIMA, T. & MURAKAMI, T. Alteration of fate of vasoactive autacoids in pulmonary circulation following monocrotaline-induced lung vascular injury in rats
- 1175 ITO, K., NAKASHIMA, T., MURAKAMI, K. & MURAKAMI, T. Altered function of pulmonary endothelium following monocrotaline-induced lung vascular injury in rats
- 1184 ZHANG, M.-S. & ZHOU, E.-F. Methylflavonolamine hydrochloride inhibits contractions induced by noradrenaline, calcium and potassium in rabbit isolated aortic strips
- 1189 GILLESPIE, J.S. & SHENG, H. The lack of involvement of cyclic nucleotides in the smooth muscle relaxant action of BRL 34915
- 1198 FONTAINE, J. & LEBRUN, P. Pharmacological analysis of the effects of Bay K 8644 and organic calcium antagonists on the mouse isolated distal colon

continued on inside back cover

- 1207 NORTHOVER, A.M. & NORTHOVER, B.J. Protection of rat atrial myocardium against electrical, mechanical and structural aspects of injury caused by exposure *in vitro* to conditions of simulated ischaemia
- 1218 PETTY, M.A. & MIR, A.K. Comparison of the cardiovascular effects of *trans*-diclofurime with different types of calcium antagonists in conscious spontaneously hypertensive rats
- 1225 STEWART, A.G. & DUSTING, G.J. Characterization of receptors for platelet-activating factor on platelets, polymorphonuclear leukocytes and macrophages
- 1234 HORTON, R.W., LOWTHER, S., CHIVERS, J., JENNER, P., MARSDEN, C.D. & TESTA, B. The interaction of substituted benzamides with brain benzodiazepine binding sites in vitro
- 1241 MURAMATSU, I. & YANAIHARA, N. Contribution of galanin to non-cholinergic, non-adrenergic transmission in rat ileum

- 1250 KINUGAWA, T., KOTAKE, H. & MASHIBA, H. Inhibitory actions of amoxapine, a tricyclic antidepressant agent, on electrophysiological properties of mammalian isolated cardiac preparations
- 1257 PETERS, J.A., KIRKNESS, E.F., CALLACHAN, H., LAMBERT, J.J. & TURNER, A.J. Modulation of the GABA<sub>A</sub>-receptor by depressant barbiturates and pregnane steroids
- 1270 KILBINGER, H. & STEIN, A. Dicyclomine discriminates between M<sub>1</sub>- and M<sub>2</sub>-muscarinic receptors in the guinea-pig ileum
- 1275 CURTIS, M.J. & WALKER, M.J.A. The mechanism of action of calcium antagonists on arrhythmias in early myocardial ischaemia: studies with nifedipine and DHM9

#### MEETINGS CALENDAR

The Indices to Volumes 93 and 94 together with the Cumulative Contents will be published with the December 1988 issue