## Edited for the British Pharmacological Society by

W. D. M. Paton (Chairman) H. M. Adam (Secretary)
P. A. Nasmyth (Press Editor)
Jennifer Maclagan (Assistant Press Editor)

G. W. Ashcroft (co-opted) D. B. Hope R. B. Barlow H. W. Kosterlitz J. M. Barnes G. P. Lewis J. W. Black R. D. Lowe W. C. Bowman J. Maddox J. F. Mitchell P. B. Bradley A. W. Cuthbert M. W. Parkes Mary Pickford C. T. Dollery W. S. Feldberg H. P. Rang D. F. Hawkins H. O. Schild D. F. Sharman F. Hobbiger J. R. Hodges Hannah Steinberg Margarethe Holzbauer F. M. Sullivan

J. R. Vane

Editorial assistance is provided by the staff of Nature

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 suggestions inside the back cover.

Subscriptions. Three volumes of the journal are published annually, each volume containing four numbers. The annual subscription rate is £18.50 in the United Kingdom and Republic of Ireland; \$53.00 U.S.A. and \$57.50 Canada (by air freight; second class postage paid at New York, N.Y.); £18.50 all other overseas countries. Subscriptions should be sent to: Subscriptions Department, Macmillan Journals Ltd., Brunel Road, Basingstoke, Hampshire, England. Alternatively, the journal can be ordered through a subscription agent or bookseller.

Advertisements: Applications for advertising space and rates should be sent to: J. Ashley-Brown, Advertisement Manager, British Journal of Pharmacology, Macmillan Journals Ltd., 4 Little Essex Street, London, WC2R 3LF, England. Tel: 01-836 6633. Direct line: 01-405 3013.

Copyright © 1971 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.

# Leslie G. Matthews

'Without doubt the doyen of British pharmaceutical historians' Pharmaceutical Journal

# ANTIQUES OF THE PHARMACY

Dramatic changes in medication over the past half century have rendered much of the pharmacist's furnishings obsolete and the field is now a rich one for antique collectors. Mr. Matthews' fascinating and beautifully illustrated book is the first comprehensive one on the subject.

89 photographs.

£3.50 net

### BELL

# SPECIALIST JOURNALS from MACMILLAN

## **Philosophy**

The Journal of the Royal Institute of Philosophy. Philosophy provides a forum for the publication of papers on philosophical problems, reviews of books and notices of the Institute. Published quarterly. £2.30 per ann. inc. postage U.K. and overseas; U.S.A. \$6.00, Canada \$6.40.

### Minerva

A review of science, learning and policy. The journal publishes critical papers on the problems of higher education and policy-making in science. Published quarterly, £3,50 per ann. inc. postage U.K. and overseas; U.S.A. \$10.00 and Canada \$10.80 by airfreight.

## Russian Mathematical Surveys

A translation of the reviews and biographical articles in Uspekhi Matematicheskikh Nauk. The journal is published by the London Mathematical Society with the support of the Department of Education and Science. It appears six times a year.

£19 per ann. inc. postage U.K. and Eire: elsewhere overseas £28.50: U.S.A. \$69. Canada \$74.50.

Subscription orders and enquiries should be addressed to MACMILLAN JOURNALS LTD, Subscription Dept, Brunel Road, Basingstoke, Hampshire, England.

## **BRITISH JOURNAL OF PHARMACOLOGY**

## **Short Communications**

Papers for consideration should be marked "Short Communication", and be submitted in duplicate to the Secretary of the Editorial Board. They must be less than 1,200 words in length and may contain one figure or one table. To reduce publication delay to a minimum (about 6 weeks), correspondence between author and editor must be avoided. Manuscripts should therefore be prepared with great care and the customary form used in the Journal strictly observed (see instructions on the inside covers of a recent issue of the Journal). Short Communications will be accepted on the understanding that if authors' proofs are not returned before the journal goes to press, the Communication will be published with the Press Editor's corrections only. Communications not accepted for publication will be returned in approximately 2 weeks.

# BRITISH JOURNAL OF PHARMACOLOGY

The following are some of the manuscripts which will be published in future issues:

BLUM, K., GELLER, I. and WALLACE, J. E.: Interaction effects of ethanol and pyrazole in laboratory rodents.

CHERNOFF, N. and GRABOWSKI, C. T.: Responses of the rat foetus to maternal injections of adrenaline and vasopressin.

D'ARCY HART, P. and PAYNE, SHEILA N.: Effects of non-ionic surfactants that modify experimental tuberculosis on lipase activity of macrophages.

GINSBURG, SARA, KITZ, R. J. and SAVARESE, J. J.: Neuromuscular blocking activity of a new series of quaternary N-substituted choline esters.

KLAASSEN, C. D.: Biliary excretion of barbiturates.

Levy, B. and Lindner, H. R.: Selective blockade of the vasodepressor response to prostaglandin  $F_{2\alpha}$  in the anaesthetized rabbit.

OLATUNDE, I. A.: Chloroquine concentrations in the skin of rabbits and man.

SINGH, B. N. and VAUGHAN WILLIAMS, E. M.: Effects on cardiac muscle of the  $\beta$ -adrenoceptor blocking drugs INPEA and LB46 in relation to their local anaesthetic action on nerves.

WARDELL, W. M.: Drug displacement from protein binding: II. Source of the sulphadoxine liberated by phenylbutazone.

## **INDEX TO VOLUME 42**

## **AUTHOR INDEX**

- ALLEN, J. D., SHANKS, R. G. and ZAIDI, S. A. Effects of lignocaine and propranolol on experimental cardiac arrhythmias, 1
- AMBACHE, N. and ABOO ZAR, M. Augmentation of atropine resistant spasms in plexus-containing guinea-pig longitudinal muscle by ganglionic action of the acetylcholinesterase inhibitor BW 284C51 (1:5 bis (p-allyldimethyl-ammonium phenyl) pentan-3-one dibromide), 657P
- AMBACHE, N., DUNK, LINDA, P., MIALL, P. and ABOO ZAR, M. Unexplained inhibitory action of Dlysergic acid diethylamide (LSD) on postganglionic motor transmission in the guinea-pig vas deferens, 659P
- ANKIER, S. I., BRITTAIN, R. T. and JACK, D. Investigation of central cholinergic mechanisms in the conscious mouse, 127
- ARBAB, A. G., HICKS, DEBORAH, C. and TURNER, P. Relative potency of intravenous prinodolol and propranolol in man, 665P
- ASSEM, E. S. K. and SCHILD, H. O. Antagonism by β-adrenoceptor blocking agents of the antianaphylactic effect of isoprenaline, 620

- BALDWIN, D. W. (the late) and Lesser, E. Effect of eserine on the chick biventer cervicis preparation, 412
- BARLOW, R. B. and FRANKS, FIONA. Specificity of some ganglion stimulants, 137
- BARTLET, A. L. 5-Hydroxytryptamine metabolism in sheep, 273
- Bennett, A. and Posner, J. Studies on prostaglandin antagonists, 584
- BOULLIN, D. J. and O'BRIEN, R. A. Accumulation of quinidine by human blood platelets: effects on platelet ultrastructure and 5-hydroxytryptamine,
- BOURDOIS, P. S., MITCHELL, J. F. and SZERB, J. C. Effect of atropine on acetylcholine release from cerebral cortical slices stimulated at different frequencies, 640P
- BREESE, G. R. and TRAYLOR, T. D. Depletion of brain noradrenaline and dopamine by 6hydroxydopamine, 88
- BRITTAIN, R. T. See ANKIER, S. E., 127 BROWN, D. A., HALLIWELL, J. V. and SCHOLFIELD, C. N. Uptake of nicotine and extracellular space markers by isolated rat ganglia in relation to receptor activation, 100
- Bruinvels, J. Evidence for inhibition of the reuptake of 5-hydroxytryptamine and noradrenaline by tetrahydronaphthylamine in rat brain, 281

CAMARGO, A. and FERREIRA, S. H. Action of bradykinin potentiating factor (BPF) and dimercaprol (BAL) on the responses to bradykinin of isolated preparations of rat intestines, 305

- CHANG, P. and RAND, M. J. Temperature dependence of catecholamine depletion by reserpine in the heart of the toad (Bufo marinus), 371
- CHEAH, T. B., GEFFEN, L. B., JARROTT, B, and OSTBERG, A. Action of 6-hydroxydopamine on lamb sympathetic ganglia, vas deferens and adrenal medulla: a combined histochemical, ultrastructural and biochemical comparison with the effects of reserpine, 543
- CHRISTIE, JANICE E. and CROW, T. J. Possible role of dopamine-containing neurones in the behavioural effects of cocaine, 643P
- CLARK, R. B. and WILKINSON, S. Cardioactive amines found in ox spleen extracts, 654P
- CLARKE, D. E., ERTEL, R. J., FRANKE, F. R. and OUYANG, G. Autonomic receptors and choline uptake in embryonic chick myocardial cell cultures, 651P
- COLTART, D. J., MELDRUM, S. J. and ROYDS, R. B. Myocardial effects of indoramin hydrochloride, a new hypotensive agent, 664P
- COLTART, D. J., MELDRUM, S. J., ROYDS, R. B. and SPILKER, B. A. Study of the contractile and electrophysiological maturation responses of the human foetal myocardium, 653P
- Crow, T. J. See Christie, Janice E., 643P
- CRUNKHORN, PEARL and MEACOCK, S. C. R. Mediators of the inflammation induced in the rat paw by carrageenin, 392
- CUMINGS, J. N. and HILTON, BARBARA P. Effects of methysergide on platelets incubated with reserpine, 611
- CURRY, S. H., D'MELLO, A. and MOULD, G. P. Destruction of chlorpromazine during absorption in the rat in vivo and in vitro, 403

### D

- DAVIS, HEATHER A., HORTON, E. W., JONES, K. B. and QUILLIAM, J. P. Identification of prostaglandins in prevertebral venous blood after preganglionic stimulation of the cat superior cervical ganglion.
- DE CASRILEVITZ, MIRA, ENGELHARDT, E. and ESBÉRARD, C. A. Maturation of convulsogenic activity induced by leptazol in the albino rat, 31
- DELINE, T. R. See EYRE, P., 423
- DHAWAN, B. N. and Dua, P. R. a-Adrenoceptor mediation of central hyperthermic response to noradrenaline in rabbits (T), 668P
- D'MELLO, A. See CURRY, S. H., 403
- DOGGETT, N. S. and SPENCER, P. S. J. Pharmacological properties of centrally administered ouabain and their modification by other drugs, 242
- Douglas, W. W. and Sorimachi, M. Electrically evoked release of vasopressin from isolated neurohypophyses in sodium-free media, 647P
- Dua, P. R. See Dhawan, B. N., 668P DUNK, LINDA P. See AMBACHE, N., 659P

E

EISEN, V. and LOVEDAY, C. In vivo effects of cellulose sulphate on plasma kiningen, complement and inflammation, 383

ENGELHARDT, E. See DE CASRILEVITZ, MIRA, 31 ERTEL, R. J. See CLARKE, C. E., 651P

ESBÉRARD, C. A. See DE CASRILEVITZ, MIRA, 31

EYRE, P., with the technical collaboration of DELINE, T. R. Release of dopamine from bovine lung by specific antigen and by compound 48/80, 423

#### F

FERGUSON, D. M. Renal handling of Paraquat, 636P FERREIRA, S. H. See CAMARGO, A., 305

FINCH, L. Cardiovascular reactivity in the experimental hypertensive rat, 56

FLEISCH, J. H. Further studies on the effect of ageing on α-adrenoceptor activity of rat aorta, 311

Foy, J. M. and Furman, B. L. Effect of diuretics on mouse blood sugar following single dose administration, 287

FRANK, G. B. and OHTA, M. Blockade of the reticulospinal inhibitory pathway by anaesthetic agents, 328

FRANKE, F. R. See CLARKE, D. E., 651P FRANKS, FIONA. See BARLOW, R. B., 137 FURMAN, B. L. See Foy, J. M., 287

#### G

GEFFEN, L. B. See CHEAH, T. B., 543

GEORGE, A. J. and LEACH, G. D. H. Differential effect of alterations in the calcium and magnesium concentrations on the responses to sympathomimetic amines in the perfused rat mesentery, 663P

GILBERT, J. C. Effects of an anti-convulsant, acetazolamide, on the sodium gradient and xylose uptake of cerebral cortex slices, 642P

GINSBORG, B. L. and HIRST, G. D. S. Prostaglandin E<sub>1</sub> and noradrenaline at the neuromuscular junction, 153

GONG, S. N. C. and ROGERS, K. J. Role of brain monoamines in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with pargyline, 646P

GRAHAM, J. D. P. and MOTTRAM, D. R. Binding of N-(2-bromo ethyl)-N-ethyl-N1-naphthyl-methylamine HBr (SY28) to the proteins of guinea-pig vas deferens, 428

GREEN, ANN Y. and GREEN, D. Wy 23205, a new non-steroidal anti-inflammatory agent, 638P

GREEN, D. See GREEN, ANN Y., 638P GREWAL, R. S. and KAUL, C. L. Importance of the sympathetic nervous system in the development of renal hypertension in the rat, 497

GRUNDY, H. F. Cardiovascular effects of morphine, pethidine, diamorphine and nalorphine on the cat and rabbit, 159

GULATI, O. D. and JAYKAR, SAROJA. Factors affecting the action of guanethidine on adrenergic neurones, 352

GULATI, O. D. and KELKAR, V. V. Effect of tyramine on human umbilical artery in vitro, 155

GULATI, O. D. and PATEL, D. G. Effects of various drugs on insulin antibodies, 66

GULDBERG, H. C., SHARMAN, D. F. and TEGERDINE, P. R. Some observations on the estimation of 3-methoxytyramine in brain tissue, 505

Н

HADHAZY, P. Effect of isoprenaline and aminophylline on the chronotropic responses of the isolated guinea-pig heart to vagal stimulation and acetylcholine, 364

HAEFELI, LISETTE and PETERS, G. Induction of hypovolaemia by thirst-inducing doses of renin

or angiotensin II, 25

HALLIWELL, J. V. See Brown, D. A., 100

HAMILTON, T. C. Modification of the vascular response to isoprenaline by cholinomimetic drugs, 254

HART, S. L. and MIR, M. S. Adrenoceptors in the human foetal colon, 662P

HAYDEN, J. and TARGETT, MARGARET A. Inhibition by spinal transection of renin release from ischaemic rat kidneys, 649P

HEMSWORTH, B. A. Effects of some polymethylene bis(hydroxyethyl) dimethylammonium pounds on acetylcholine synthesis, 78

HICKS, DEBORAH, C. See ARBAB, A. G., 665P

HILL, R. G., SIMMONDS, M. A. and STRAUGHAN, D. W. Evidence that bicuculline can both potentiate and antagonize GABA, 639P

HILTON, BARBARA P. See CUMINGS, J. N., 611 HIRST, G. D. S. See GINSBORG, B. L., 153

HODGES, J. R. and HOTSTON, R. T. Suppression of adrenocorticotrophic activity in the ascorbic acid deficient guinea-pig, 595

HOLLAND, P. and WHITE, R. G. Atropine sulphate absorption in humans following intramuscular injection of a mixture of the oxime P2S and atropine, 645P

HOPKIN, JUDY, and NEAL, M. J. Effect of electrical stimulation and high potassium concentrations on the efflux of [14C] glycine from slices of spinal cord, 215

HORTON, E. W. See DAVIS, HEATHER A., 569 HOTSTON, R. T. See HODGES, J. R., 595

Hughes, J. Evaluation of neuronal and extraneuronal uptake mechanisms during adrenergic nerve stimulation, 660P

#### ī

IGIĆ, R. Effect of oxotremorine on the acetylcholine content of whole brain and various brain regions in the pigeon, 303

INNES, I. R. and KARR, G. W. Protection against induction of supersensitivity to catecholamines by cocaine, 603

#### J

JACK, D. See ANKIER, S. I., 127 JARROTT, B. See CHEAH, T. B., 543

JASANI, M. K. and LEWIS, G. P. Intracellular enzymes in local lymph during homograft rejection, 650P

JAYKAR, SAROJA. See GULATI, O. D., 352 JONES, K. B. See DAVIS, HEATHER A., 569

KARR, G. W. See INNES, I. R., 603 KAUL, C. L. See GREWAL, R. S., 497 KELKAR, V. V. See GULATI, O. D., 155

KIRBY, MARILYN J. Influence of calcium on responses of human isolated uterine tissue to fenfluramine, 652P

KNOLL, J. and Vizi, E. S. Effect of frequency of stimulation on the inhibition by noradrenaline of the acetylcholine output from parasympathetic nerve terminals, 263

KUMAR, R., MITCHELL, E. and STOLERMAN, I. P. Disturbed patterns of behaviour in morphine tolerant and abstinent rats, 473

LAYMAN, J. M. and MILTON, A. S. Distribution of tritium labelled \( \triangle \) 1-tetrahydrocannabinol in the rat brain following intraperitoneal administra-

LEACH, G. D. H. See GEORGE, A. J., 663P LESSER, E. See BALDWIN, D. W. (the late), 412 Lewis, G. P., Peters, Judy and White, A. M. Intracellular enzymes and protein synthesis in rabbit skin after thermal injury, 437

Lewis, G. P. See Jasani, M. K., 650P LOVEDAY, C. See EISEN, V., 383

#### M

MAJOR, C. T. and PLEUVRY, BARBARA J. Effects of α-methyl-p-tyrosine, p-chlorophenylalanine, L-β-(3. 4-dihydroxyphenyl)alanine, 5-hydroxytryptophan and diethyldithiocarbamate on the analgesic activity of morphine and methylamphetamine in the mouse, 512

MARKLEY, K., SMALLMAN, ELIZABETH and THORNTON, S. W. Protection against burn, tourniquet and endotoxin shock by histamine, 5-hydroxytryptamine and 5-hydroxytryptamine derivatives, 13

MARLEY, E. and STEPHENSON, J. D. Actions of dexamphetamine and amphetamine-like amines in chickens with brain transections, 522

MARSHALL, I. G. Actions of acetylcholine and carbachol on the chick biventer cervicis muscle,

MEACOCK, S. C. R. See Crunkhorn, Pearl, 392 MELDRUM, S. J. See COLTART, D. J., 653P, 664P MIALL, P. See AMBACHE, N., 659P

MICHAL, F. and SILVER, M. J. Inhibition of aggregation and plug formation of platelets subjected to ultrasound and tested in the revolving plastic loop, 635P

MILLAR, R. A. and SILVER, I. A. Excitation of certain posterolateral hypothalamic units by cyclopropane and ether, 315

MILTON, A. S. See LAYMAN, J. M., 309 MIR, M. S. See HART, S. L., 662P

MITCHELL, E. See KUMAR, R., 473 MITCHELL, J. F. See BOURDOIS, P. S., 640P

MITCHELSON, F. Differentiation between the actions of acetylcholine and tetramethylammonium on the isolated taenia of the guinea-pig caecum by hemicholium-3, 43

MOTTRAM, D. R. See GRAHAM, J. D. P., 428

MOULD, G. P. See CURRY, S. H., 403 MUCKART, ANN B. Neurally evoked release of noradrenaline from the olfactory bulb, 641P

NEAL, M. J. See HOPKIN, JUDY, 215 NG, K. K. F., TEH, Y. F. and WHELAN, R. F. Effect of blood on the response of the rabbit ear artery to noradrenaline and angiotensin II, 493

NICHOLAS, T. E. Responses of mean arterial pressure to pressor agents and diuretics in renal hypertensive and salt hypertensive rats, 179

NOTT, M. W. Interaction between phosphodiesterase inhibitors and catecholamines on contractions of the cat soleus muscle, 666P

O'BRIEN, R. A. See BOULLIN, D. J., 114 ODUMOSU, A. and WILSON, C. W. M. Metabolic availability of ascorbic acid in female guineapigs, 637P

OHTA, M. See FRANK, G. B., 328 OSTBERG, A. See CHEAH, T. B., 543 OUYANG, G. See CLARKE, D. E., 651P

OWEN, D. A. A. and STUERMER, E. Effect of dihydroergotamine (DHE) on the capacitance, resistance and precapillary sphincter vessels of denervated cat skeletal muscle, 655P

PARRATT, J. R. and WINSLOW, EILEEN. Cardiovascular pharmacology of quazodine (MJ-1988), with particular reference to effects on myocardial blood flow and metabolic heat production, 193

Parsons, J. A. and Summers, R. J. Cat assay for the emetic action of digitalis and related glycosides (digitoxin, digoxin, lanatoside C, ouabain and calactin), 143

PATEL, D. G. See GULATI, O. D., 66

PENN, R. G. and ROGERS, K. J. Comparison of the effects of morphine, pethidine and pentazocine in rabbits pretreated with a monoamine oxidase inhibitor, 485

Persson, C. G. A. Adrenoceptor functions in the cat choledochoduodenal junction in vitro, 447

Peters, G. See Haefeli, Lisette, 25

PETERS, JUDY. See LEWIS, G. P., 437

PLEUVRY, BARBARA J. See MAJOR, C. T., 512 POJDA, S. M. and VANE, J. R. Inhibitory effects of aprotinin on kallikrein and kininases in dog's blood, 558

Posner, J. See Bennett, A., 584

QUILLIAM, J. P. See DAVIS, HEATHER A., 569

RAND, M. J. See CHANG, P., 371

REILLY, MARGARET A. and SCHAYER, R. W. Techniques for measuring histamine formation in mice, 375

ROFFLER-TARLOV, SUZANNE, SHARMAN, D. F. and TEGERDINE, P. 3,4-Dihydroxyphenyl-acetic acid and 4-hydroxy-3-methoxyphenyl-acetic acid in the mouse striatum: a reflection of intra- and extra-neuronal metabolism of dopamine?, 343

Rogers, K. J. See Gong, S. N. C., 646P

ROGERS, K. J. See PENN, R. G., 485

ROTHSCHILD, A. M. Role of the adrenal gland in the leucocytosis caused by bradykinin or cellulose sulphate in the rat, 631

ROYDS, R. B. See COLTART, D. J., 653P, 664P

SANTOLUCITO, J. A. and WHITCOMB, E. Effect of paraoxon on erythrocyte metabolism as measured by oxygen uptake in vitro, 298

SCHAYER, R. W. See REILLY, MARGARET A., 375 SCHILD, H. O. See ASSEM, E. S. K., 620.

Scholfield, C. N. See Brown, D. A., 100
Shanks, R. G. See Allen, J. D., 1
Sharman, D. F. See Guldberg, H. C., 505
Sharman, D. F. See Roffler-Tarlov, Suzanne, 343
Shaw, Graham G. Hypothermia produced in mice by histamine acting on the central nervous system, 205

SHORE, P. A. and SUGRUE, M. F. Amine uptake characteristics of the guinea-pig Auerbach plexus, 661P

SILVER, I. A. See MILLAR, R. A. 315 SILVER, M. J. See MICHAL, F., 635P

SIMMONDS, M. A. Inhibition by atropine of the increased turnover of noradrenaline in the hypothalamus of rats exposed to cold, 224

SIMMONDS, M. A. See HILL, R. G., 639P

SMALL, R. C. Transmission from cholinergic neurones to circular smooth muscle obtained from the rabbit caecum, 656P

SMALLMAN, ELIZABETH. See MARKLEY, K., 13 SORIMACHI, M. See DOUGLAS, W. W., 647P

Sparkes, C. G. and Spencer, P. S. J. Antinociceptive activity of morphine after injection of biogenic amines in the cerebral ventricles of the conscious rat, 230

SPENCER, P. S. J. See DOGGETT, N. S., 242
SPENCER, P. S. J. See SPARKES, C. G., 230
SPILKER, B. A. See COLTART, D. J., 653P
STEPHENSON, J. D. See MARLEY, E., 522
STOLERMAN, I. P. See KUMAR, R., 473
STRAUGHAN, D. W. See HILL, R. G., 639P
STUERMER, E. See OWEN, D. A. A., 655P
SUGRUE, M. F. See SHORE, P. A., 661P
SUMMERS, R. J. See PARSONS, J. A., 143
SZERB, J. C. See BOURDOIS, P. S., 640P

7

TARGETT, MARGARET A. See HAYDEN, J., 649P TEGERDINE, P. R. See GULDBERG, H. C., 505 TEGERDINE, P. See ROFFLER-TARLOV, SUZANNE, 343 TEH, Y. F. See NG, K. K. F., 493 THORNTON, S. W. See MARKLEY, K., 13 TRAYLOR, T. D. See BREESE, G. R., 88 TURNER, P. See ARBAB, A. G., 665P

V

Vane, J. R. *See* Pojda, S. M., 558 Vizi, E. S. *See* Knoll, J., 263

W

WHELAN, R. F. See NG, K. K. F., 493 WHITCOMB, E. See SANTOLUCITO, J. A., 298 WHITE, A. M. See LEWIS, G. P., 437 WHITE, R. G. See HOLLAND, P., 645P WILKINSON, S. See CLARK, R. B., 654P WILSON, C. W. M. See ODUMOSU, A., 637P WINSLOW, EILEEN. See PARRATT, J. R., 193

Z

ZAIDI, S. A. See ALLEN, J. D., 1
ZAR, M. ABOO. See AMBACHE, N., 657P, 659P
ZEITLIN, I. J. Pharmacological characterization of kinin-forming activity in rat intestinal tissue, 648P

## SUBJECT INDEX

Α

- Acetazolamide, effect on the sodium gradient and xylose uptake of cerebral cortex slices, 642P
- 1-Acetyl-2-(8-chloro-10, 11-dihydrodibenz (b, f) (1, 4) oxazepine-10-carbonyl) hydrazine, studied as a prostaglandin antagonist, 584
- Acetylcholine, action on the chick biventer cervicis preparation compared with that of carbachol, 462
- —, actions on the isolated taenia of the guinea-pig caecum compared with those of tetramethyl-ammonium, 43
- ----, chronotropic responses of the isolated guineapig heart to, effect of isoprenaline and aminophylline on, 364
- —, effect of eserine on the response of the chick isolated biventer cervicis preparation to, 412
- —, effect of frequency of stimulation on output from parasympathetic nerve terminals, 263
- —, effect of intracerebroventricular injection in the conscious mouse, 127
- —, effect of oxotremorine on content of whole brain and various brain regions in the pigeon, 303
   —, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603
- release from cerebral cortical slices stimulated at different frequencies, effect on atropine on, 640P
   synthesis of, effect of polymethylene bis (hydroxyethyl) dimethylammonium compounds
- on, 78
  Acetylcholinesterase inhibitor, augmentation of atropine resistant spasms in plexus-containing guinea-pig longitudinal muscle by ganglionic action of BW 284C51, 657P
- Acid phosphatase, concentrations in rabbit skin after thermal injury, 437
- —, in local lymph during homograft rejection, 650P Adamantanamine, effects on concentration of 3,4dihydroxyphenylacetic acid and 4-hydroxy-3methoryphenylacetic acid in an experience acid.
- methoxyphenylacetic acid in mouse striatum, 343

  Adenosine triphosphate, in human blood platelets,
  effects of accumulation of quinidine, 114
- Adrenal gland, role of, in the leucocytosis caused by bradykinin or cellulose sulphate i.1 the rat, 631
- Adrenaline, adrenoceptor function in cat sphincter of Oddi preparations, 447
- —, and phosphodiesterase inhibitors, interaction between, on contractions of the cat soleus muscle, 666P
- ---, cardiac, measured in rats after chemical sympathectomy with 6-hydroxydopamine, 497
- ---, in the toad heart, effect of temperature on depletion by reserpine, 371
- —, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603
- —, role in leukocytosis caused by bradykinin or cellulose sulphate in the rat, 631
- Adrenergic nerve, stimulation of, evaluation of neuronal and extraneuronal uptake mechanisms during, 660P
- Adrenergic neurones, factors affecting the action of guanethidine on, 352
- Adrenoceptors, functions in the cat choledochoduodenal junction in vitro, 447
- -, in the human foetal colon, 662P
- α-Adrenoceptors, mediation of central hyperthermic responses to noradrenaline in rabbits (T), 668P
- —, study of the mechanism of potentiation of catecholamines by cocaine, 603

- β-Adrenoceptors, antagonism by blocking agents of the antianaphylactic effect of isoprenaline, 620
- —, further studies on the effect of ageing on activity of rat aorta, 311
- Adrenocorticotrophic activity, suppression by betamethasone, in the scorbutic guinea-pig, 595
- Ageing, further studies on the effect on β-adrenoceptor activity of rat aorta, 311
- 1:5 bis (p-Allyldimethylammonium phenyl)-pentan-3one dibromide, augmentation of atropine resistant spasms in plexus-containing guinea-pig longitudinal muscle by ganglionic action of, 657P
- Amines, cardio-active, found in ox spleen extracts, 654P
- —, uptake kinetics in the guinea-pig Auerbach plexus, 661P
- Amino-acids, binding of H-(2-bromo ethyl)-N-ethyl-N<sup>1</sup>-naphthylmethylamine HBr to, in the guineapig vas deferens, 428
- γ-Aminobutyric acid, potentiated and antagonized by bicuculline, 639P
- Aminoguanidine, effects on histamine concentrations in mice after injection of histidine, 375
- Aminophenethyltrimethylammonium, specificity for ganglion receptors compared with that of other ganglion stimulants, 137
- Aminophylline, effects of, on the chronotropic responses of the isolated guinea-pig heart to vagal stimulation and acetylcholine, 364
- 2-Aminotetralin, effects on concentration of 3,4dihydroxyphenylacetic acid and 4-hydroxy-3methoxyphenylacetic acid in mouse striatum, 343
- Amphetamine, actions of, in chickens with brain transections, 522
- —, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentrations, 512
- antagonism of the depressant effects of intracerebroventricularly injected ouabain in mice, 242
- —, effect of, on the responses to carbachol and oxotremorine in the conscious mouse brain, 127
- —, effect on acetylcholine output to low frequency parasympathetic nerve stimulation, 263
- —, effect on concentrations of 3,4-dihydroxyphenylacetic acid and 4-hydroxy-3-methoxyphenylacetic acid in mouse striatum, 343
- ----, effect on concentrations of 3-methoxytyramine and dopamine in brain, 505
- Anaesthetics, blockade of the reticulospinal inhibitory pathway by, 328
- —, effects of lignocaine and propranolol on experimental cardiac arrhythmias, 1
- ----, inhalation, effects on discharge rate of single neurones in the posterolateral hypothalamus, 315
- Analgesia, produced by morphine and sympathomimetic drugs, compared in the presence of drugs which change the brain catecholamine concentrations, 512
- Analgesics, comparison of the effects of morphine, pethidine and pentazocine in rabbits pretreated with a monoamine oxidase inhibitor, 485
- Anaphylaxis, in cattle, attempt to determine the nature of the mediators of, 423
- Angiotensin, cardiovascular reactivity to, in the intact hypertensive rat, 56
- —, induction of hypovolaemia by thirst-inducing doses of, 25
- Angiotensin II, potentiation by blood of the vasoconstrictor effect of, on the rabbit ear artery, 493

#### Angiotensin II (contd.)

, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179

Antibodies, insulin, effects of various drugs on, 66 Anticancer agents, effects of, on insulin antibody titres, 66

Anticholinesterases, effect of hemicholinium-3 on the contractile effects of acetylcholine and tetramethylammonium on the isolated taenia of the guinea-pig caecum, in the presence of, 43

poisoning by, atropine sulphate absorption in humans following intramuscular injection of a mixture of the oxime P2S and atropine, 645P

Anticonvulsants, effect of acetazolamide on the sodium gradient and xylose uptake of cerebral cortex slices, 642P

Antigen, release of dopamine from bovine lung by, 423 Aorta, rat, effect of ageing on \beta-adrenoceptor activity of, 311

Aprotinin, inhibitory effects on kallikrein and kininases in blood, 558

Arecoline, modification of the vascular response to isoprenaline, 254

Arginine, binding of H-(2-bromo ethyl)-N-ethyl-N1naphthylmethylamine HBr to, in the guinea-pig vas deferens, 428

Arrhythmia, cardiac effects of lignocaine and propranolol on, 1

Arterial pressure, responses of mean, to pressor agents and diuretics in renal hypertensive and salt hypertensive rats, 179

Ascorbic acid, effect of betamethasone on adrenocorticotrophic activity in guinea-pigs deficient in, 595

metabolic availability in female guinea-pigs, 637P

Aspartic acid, binding of H-(2-bromo ethyl)-N-ethyl-N1-naphthylmethylamine HBr to, in the guineapig vas deferens, 428

Atropine, effect of, on acetylcholine release from cerebral cortical slices stimulated at different frequencies, 640P

, effect of, on the automaticity of cat sphincter of Oddi preparations, 447

inhibition of increased turnover of noradrenaline in the hypothalamus of rats exposed to cold, 224

Atropine-like drugs, modification of the effects of cholinomimetic agents in the conscious mouse brain, 127

Atropine sulphate, absorption in humans, following intramuscular injection of a mixture of the oxime P2S and atropine, 645P

Autonomic receptors, and choline uptake in embryonic chick myocardial cell cultures, 651P

R

BAL. See dimercaprol

Barbiturates, distribution of tritium labelled △1tetrahydrocannabinol in the rat brain following intraperitoneal administration, 308

Behaviour, disturbed patterns of, in morphine tolerant and abstinent rats, 473

Betamethasone, effect on adrenocorticotrophic activity in the scorbutic guinea-pig, 595

Bicuculline, evidence that it can both potentiate and antagonize γ-aminobutyric acid, 639P

Biogenic amines, effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230

Bis-quaternary ammoniums, effects of, on acetylcholine synthesis, 78

Biventer cervicis preparation, chick, acetylcholine and carbachol on, 462

-, isolated chick, use in studying cholinesterase activity, 412

Blood, effect of, on the response of the rabbit ear artery to noradrenaline and angiotensin II, 493 interaction of aprotinin with kallikrein and

kininases in, 558

, prevertebral venous, identification of prostaglanding in, after preganglionic stimulation of the cat superior cervical ganglion, 569

Blood platelets, effect on their response to 5-hydroxytryptamine, of incubation with methysergide and reserpine, 611

BPF. See bradykinin potentiating factor

Bradykinin, action of bradykinin potentiating factor and dimercaprol on the responses of isolated preparations of rat intestines to, 305

-, effect of aprotinin on half-life of, in blood, 558 role of the adrenal gland in leucocytosis caused by, in the rat, 631

Bradykinin potentiating factor, action on the responses to bradykinin of isolated preparations of rat intestines, 305 N-(2-Bromo ethyl) - N - ethyl - N1-naphthylmethylamine

HBr, binding of, to the proteins of guinea-pig vas deferens, 428

2-Bromo lysergic acid, effects on platelets incubated with reserpine, 611

BS 284C51. See 1:5 bis(p-allyldimethylammonium phenyl pentan-3-one dibromide

Burn, intracellular enzymes and protein synthesis in rabbit skin after, 437

shock produced by, protection against by histamine, 5-hydroxytryptamine and 5-hydroxytryptamine derivatives, 13

Butoxamine, antagonism by, of the antianaphylactic effect of isoprenaline, 620

Cadaverine, in ox spleen extracts, 654P

Caffeine, antagonism of the depressant effects of intracerebroventricularly injected ouabain in mice, 242

Calactin, titration assay in the cat, to compare emetic and lethal potencies with those of other digitalislike drugs, 143

Calcium, differential effect of alterations in the concentration, on responses to sympathomimetic amines in the perfused rat mesentery, 663P

, effect of, on the adrenergic neurone blocking action of guanethidine, 352

, influence of, on responses of human isolated uterine tissue to fenfluramine, 652P

Cannabis, reinvestigation of effects on barbiturate sleeping time, 308

Capacitance vessels, selectivity of dihydroergotamine for, in denervated cat skeletal muscle, 655P Carbachol, mechanism of action on the chick biventer

cervicis preparation investigated, 462 , modification of effect in conscious mouse brain

by atropine-like drugs, 127 Carbamyl choline, response of the human foetal

myocardium to, in comparison with adult myocardium, 653P

Carbon tetrachloride, effects on urinary metabolites of endogenous 5-hydroxytryptamine in sheep, 273

Cardiac glycosides, depression of central nervous activity produced by intracerebroventricular injection of ouabain, and its modification by other drugs, 242

- Cardiovascular reactivity, in the experimental hypertensive rat, 56
- Cardiovascular system, effects of morphine, pethidine, diamorphine and nalorphine on the cat and rabbit, 159
- —, pharmacology of quazodine (MJ-1988), with particular reference to effects on myocardial blood flow and metabolic heat production, 193
- —, responses of mean arterial pressure to pressor agents and diuretics in renal hypertensive and salt hypertensive rats, 179
- Carrageenin, mediators of inflammation induced in the rat paw by, 392
- Catecholamines, analgesia produced by morphine and sympathomimetic drugs compared in the presence of drugs which change the brain concentrations of, 512
- —, and phosphodiesterase inhibitors, interaction between, on contractions of the cat soleus muscle, 666P
- —, cardiac effect of administration of 6-hydroxy-dopamine, 88
- —, cardiac, measured in rats after chemical sympathectomy with 6-hydroxydopamine, 497
- —, in the toad heart, effect of temperature on their depletion by reserpine, 371
- —, inhibition of their reuptake by tetrahydronaphthylamine in rat brain, 281
- —, protection against induction by cocaine of supersensitivity to, 603
- Catechol-O-methyltransferase, effect of inhibition on the concentrations of 3,4-dihydroxyphenylacetic acid and 4-hydroxy-3-methoxyphenylacetic acid in mouse striatum, 343
- Cathepsin, concentrations in rabbit skin after thermal injury, 437
- —, in local lymph during homograft rejection, 650P Cellulose sulphate, in vivo effects on plasma kininogen, complement and inflammation, 383
- —, role of the adrenal gland in leucocytosis caused by, in the rat, 631
- Central nervous system, possible mechanisms of histamine action on, to produce hypothermia, 205
- Cerebral cortex, sodium gradient and xylose uptake of, effect of acetazolamide on, 642P
- —, stimulated at different frequencies, effect of atropine on acetylcholine release from, 640P
- Chloralose, effect on the reticulospinal inhibitory pathway in decerebrate cats, 328
- p-Chlorophenylalanine, effects of, on the analgesic activity of morphine and sympathomimetic drugs in the mouse, 512
- Chlorpromazine, destruction of, during absorption in the rat in vivo and in vitro, 403
- ----, effects on the concentrations of 3-methoxytyramine and dopamine in brain, 505

  Choledochoduodenal junction, cat, adrenoceptor func-
- Choledochoduodenal junction, cat, adrenoceptor functions in, in vitro, 447
- Choline, uptake of, and autonomic receptors in embryonic chick myocardial cell cultures, 651P
- Choline acetyltransferase, enzymic acetylation of dicholine compounds by, 78
- Choline phenylether, specificity for ganglion receptors compared with that of other ganglion stimulants, 137
- Cholinergic mechanisms, central, investigation in the conscious mouse, 127
- Cholinergic neurones, transmission from, to circular smooth muscle obtained from the rabbit caecum, 656P
- Cholinesterase, activity in the chick isolated biventer cervicis preparation, 412

- Cholinesterase inhibitor, effect of paraoxon on erythrocyte metabolism as measured by oxygen uptake in vitro, 298
- Cholinoceptors, effects of isoprenaline and aminophylline on activation of, in isolated guinea-pig heart, 364
- Cholinomimetic agents, modification of their effects in the conscious mouse brain by previous administration of atropine-like substances, 127
- —, modification of the vascular response to isoprenaline, 254
- Cocaine, effect of, on the response of the human umbilical artery to tyramine *in vitro*, 155
- —, possible role of dopamine-containing neurones in the behavioural effects of, 643P
- —, protection against induction of supersensitivity by catecholamines by, 603
- Colon, human foetal, adrenoceptors in, 662P
- Complement, in vivo effects of cellulose sulphate on, in inflammation, 383
- Compound 19396. See 7-oxa-13-prostynoic acid
- Compound 48/80, release of dopamine from bovine lung by, 423
- Convulsogenic activity, induced by leptazol in the developing rat, used to determine maturity of neuromechanisms, 31
- Corticotrophin, increase of in scorbutic guinea-pigs, suppressed by betamethasone, 595
- Creatine phosphokinase, concentrations in rabbit skin after thermal injury, 437
- Cycloheximide, effect on enzyme concentration in rabbit skin after thermal injury, 437
- Cyclopentamine, actions of, in chickens with brain transection, 522
- Cyclopropane, extracellular activity recorded from single units in the posterolateral hypothalmus, before during and after administration, 315
- Cytisine, specificity for ganglion receptors compared with that of other ganglion stimulants, 137

#### D

- Desmethylimipramine, antagonism of the depressant effects of intracerebroventricularly injected ouabain in mice, 242
- Dexamphetamine, actions of, in chickens with brain transections, 522
- **Diamorphine,** cardiovascular effects on the cat and rabbit, 159
- Dibutyryl cyclic 3'5'-adenosine monophosphate, antagonism of the depressant effects of intracerebroventricularly injected ouabain in mice, 242
- 3[4,5-Di-p-chlorophenyloxazol-2-yl] propionic acid. See Wy 23205
- C<sub>10</sub>-Dichol, a potent inhibitor of acetylcholine synthesis, 78
- Dicholine compounds, effects of, on acetylcholine synthesis, 78
- Diethyldithiocarbamate, effects of, on the analgesic activity of morphine and sympathomimetic drugs in the mouse, 512
- Diethyl ether, extracellular activity recorded from single units in the posterolateral hypothalamus, before, during and after administration, 315
- Digitalis, titration assay in the cat, to compare its emetic and lethal potencies with those of related glycosides, 143
- Digitoxin, titration assay in the cat, to compare emetic and lethal potencies with those of other digitalis-like drugs, 143
- Digoxin, titration assay in the cat, to compare emetic and lethal potencies with those of other digitalislike drugs, 143

Dihydroergotamine, effect of, on the capacitance, resistance and precapillary sphincter vessels of denervated cat skeletal muscle, 655P

3,4-Dihydroxyphenylacetic acid, and 4-hydroxy-3methoxyphenylacetic acid in the mouse striatum: a reflection of intra- and extra-neuronal metabolism of dopamine?, 343

Dimercaprol, action on the responses to bradykinin of isolated preparations of rat intestines, 305

Dimethylphenylpiperazinium, specificity for ganglion receptors compared with that of other ganglion stimulants, 137

Dimethylphenylpiperazinium iodide, cardiovascular reactivity to, in the intact hypertensive rat, 56

Diuretics, effect on mouse blood sugar following single dose administration, 287

—, responses of mean arterial pressure to, in renal hypertensive and salt hypertensive rats, 179

Diurnal rhythm, comparison of the effects of morphine on, in morphine tolerant and abstinent rats. 473

Dopa, effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230

L-Dopa, effects of, on the analgesic activity of morphine and sympathomimetic drugs in the mouse, 512

Dopamine, absence in the toad heart, 371

, cerebral, role of, in the fatal hyperthermia induced by penthidine or imipramine in rabbits pretreated with pargyline, 646P

, effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230

—, effects of drugs on metabolism in brain, studied by measuring the concentration of 3-methoxytyramine, 505

---, in the brain, depletion by 6-hydroxydopamine,

---, intra- and extra-neuronal metabolism in mouse striatum? 343

—, release of, from bovine lung by specific antigen and by compound 48/80, 423

Dopamine-containing neurones, possible role of, in the behavioural effects of cocaine, 643P

E

Electrical stimulation, effect of frequency on the inhibition by noradrenaline of the acetylcholine output from parasympathetic nerve terminals, 263

—, effect on the efflux of glycine from mammalian spinal cord in vitro, 215

Electrocortical activity, in chick encephalé isolé preparations, evoked by amphetamine-like excitant amines, 522

Endotoxin, shock produced by, protection against by histamine, 5-hydroxytryptamine and 5-hydroxytryptamine derivatives, 13

Enzymes, intracellular, and protein synthesis in rabbit skin after thermal injury, 437

—, intracellular, in local lymph during homograft rejection, 650P

Ephedrine, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentrations, 512

Ergotamine, effects on platelets incubated with reserpine, 611

Erythrocytes, effect of paraoxon on oxygen consumption in a rabbit as a measure of metabolism, 298 Eserine, effect of, on the chick biventer cervicis

Ethacrynic acid, effect on mouse blood sugar following single dose administration, 287

preparation, 412

Ethanolamine, in ox spleen extracts, 654P

N-Ethylmaleimide, effect on oxygen consumption by rabbit erythrocytes compared with that of paraoxon, 298

Extracellular activity, in the posterolateral hypothalamus, effect of administration of inhalation anaesthetics, 315

Extracellular space, measurement of uptake of nicotine by rat ganglion cells and extracellular fluid, 100

F

Fenfluramine, influence of calcium on responses of human isolated uterine tissue to, 652P

Frusemide, effect on mouse blood sugar following single dose administration, 287

—, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179

G

Ganglia, cat superior cervical, identification of prostaglandins in prevertebral venous blood from, after preganglionic stimulation, 569

—, rat isolated, uptake of nicotine and extracellular space markers by, in relation to receptor activation, 100

---, stimulants of, specificity compared on the isolated guinea-pig ileum, 137

Glucose tolerance, effect of diuretics on mouse blood sugar following single dose administration, 287

Glucuronic acid, conjugation with, in the metabolism of endogenous and administered 5-hydroxy-tryptamine in sheep, 273

β-Glucuronidase, concentrations in rabbit skin after thermal injury, 437

—, in local lymph during homograft rejection, 650P

**UDP-Glucuronyl transferase**, metabolism of 5hydroxytryptamine in sheep, 273

Glutamic oxalacetic transaminase, in local lymph during homograft rejection, 650P

Glutamic pyruvic transaminase, in local lymph during homograft rejection, 650P

Glycine, effect of electrical stimulation and high potassium concentrations on efflux from mammalian spinal cord in vitro, 215

Glycogen, in rabbit skin, measurement of changes in concentration after thermal injury, 437

Guanethidine, factors affecting its action on adrenergic neurones, 352

н

Haemodynamics, effects of quazodine in cats, 193
2-Halogenoalkylamines, binding of H-(2-bromo ethyl)N-ethyl-N¹-naphthylmethylamine HBr to the proteins of guinea-pig vas deferens, 428

Halothane, extracellular activity recorded from single units in the posterolateral hypothalamus, before, during and after administration, 315

Heart rate, effect of isoprenaline and aminophylline on the responses of the isolated atrium to cholinergic stimuli, 364

Hemicholinium-3, used to compare the actions of acetylcholine and tetramethyl-ammonium on the isolated taenia of the guinea-pig caecum, 43 Herbicides, renal handling of Paraquat, 636P

Hexamethonium, effect on the automaticity of cat sphincter of Oddi preparation, 447

#### Hexamethonium (contd.)

- —, measurement of dose ratios produced by, with several ganglion stimulants, to test their specificity, 137
- Histamine, antagonists of, effect of, on time course of oedema formation induced by carrageenin, 392—, antigen-induced release of in lung, antianaphylactic effect of isoprenaline on, antagonized by B-adrenoceptor blocking agents. 620

—, hypothermia produced in mice by action on the central nervous system, 205

---, in ox spleen extracts, 654P

—, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603

—, protection against burn, tourniquet and endotoxin shock by, 13

—, techniques for measuring formation in mice, 375 **Histidine**, binding of H-(2-bromo ethyl)-N-ethyl-N¹naphthyl-methylamine HBr to, in the guinea-pig
vas deferens, 428

---, formation of histamine from, studied in mice,

Homotransplantation, skin, intracellular enzymes in local lymph during rejection of, 650P

Homovanillic acid, and 3,4-dihydroxyphenylacetic acid in the mouse striatum: a reflection of intra- and extra-neuronal metabolism of dopamine?, 343

Hydrochlorothiazide, effect on mouse blood sugar following single dose administration, 287

—, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179

Hydrocortisone, effects of, on insulin antibody titres,

6-Hydroxydopamine, action of, on lamb sympathetic ganglia, vas deferens and adrenal medulla compared with that of reserpine, 543

—, depletion of catecholamines in the brain, 88
—, used to investigate the importance of the sympathetic nervous system in the development of renal hypertension in the rat, 497

5-Hydroxyindoleacetic acid, decrease in concentration in rat brain following intraperitoneal tetrahydronaphthylamine, 281

(±)-4-(Hydroxy-3-isopropylaminopropoxy)-indole. See Prinodolol

4-Hydroxy-3-methoxyphenylacetic acid, and 3,4-dihydroxyphenylacetic acid in the mouse striatum: a reflection of intra- and extraneuronal metabolism of dopamine?, 343

5-Hydroxytryptamine, and its derivatives, protection against burn, tourniquet and endotoxin shock by, 13

—, cerebral, role of in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with pargyline, 646P

—, effect of, on time course of oedema formation induced by carrageenin, 392

—, effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230

—, effect on platelet response to, of incubation with methysergide and reserpine, 611

---, evidence for inhibition of reuptake by tetrahydronaphthylamine in rat brain, 281

—, in human blood platelets, effects of accumulation of quinidine, 114

---, metabolism in sheep, 273

5-Hydroxytryptophan, effects of, on the analgesic activity of morphine and sympathomimetic drugs in the mouse, 512

Hypercorticism, in the scorbutic guinea-pig, effect of betamethasone on, 595

Hyperglycaemia, effect of diuretics on mouse blood sugar following single dose administration, 287 Hyperglycaemic agents, oral, effects of, on insulin antibody titres, 66

**Hypertension,** renal, importance of the sympathetic nervous system in the development of, in the rat, 497

—, responses of mean arterial pressure to pressor agents and diuretics in renal hypertensive and salt hypertensive rats, 179

Hyperthermia, induced by atropine in rats exposed to heat, 224

—, induced by pethidine or imipramine in rabbits pretreated with pargyline, role of brain monoamines in, 646P

Hypotension, myocardial effects of indoramin hydrochloride, a new hypotensive agent, 664P Hypothalamus, posterolateral extracellular activity recorded before, during and after administration

of inhalation anaesthetics, 315

Hypothermia, produced in mice by histamine acting on the central nervous system, 205

Hypovolaemia, induction of, by thirst-inducing doses of renin or angiotensin II, 25

I

Imipramine, role of brain monoamines in fatal hyperthermia induced by, in rabbits pretreated with pargyline, 646P

Indoramin hydrochloride, a new hypotensive agent, myocardial effects of, 664P

Inflammation, effect of Wy 23205, a new non-steroidal anti-inflammatory agent, 638P

---, induced by carrageenin, mediators of, 392

—, mechanism of action of cellulose sulphate on plasma kininogen and complement *in vivo*, 383 **Inhibitory pathways**, reticulospinal, effect of anaesthetic agents on, 328

Insulin antibodies, effects of various drugs on, 66 Intestine, rat, mechanism of action of bradykinin, 305 Isoamylamine, in ox spleen extracts, 654P

Isocarboxazid, effects on urinary metabolites of endogenous 5-hydroxytryptamine in sheep, 273

Isoprenaline, and phosphodiesterase inhibitors, interaction between, on contractions of the cat soleus muscle, 666P

—, adrenoceptor function in cat sphincter of Oddi preparations, 447

—, antagonism by β-adrenoceptor blocking agents of the antianaphylactic effect of, 620

—, effects of, on the chronotropic responses of the isolated guinea-pig heart to vagal stimulation and acetylcholine, 364

—, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603

—, modification of the vascular response to, by cholinomimetic drugs, 254

—, response of aorta compared in rats of different ages, 311

ages, 511
 response of the human foetal myocardium to, in comparison with adult myocardium, 653P

#### K

Kallikrein, distinguished from kinin-forming enzyme in rat intestinal tissue, 648P

---, interaction with aprotinin in blood, 558

Kinin, effect of, on time course of oedema formation induced by carrageenin, 392

#### Kinin (contd.)

- —, formation in inflammation, in vivo effects of cellulose sulphate on, 383
- —, studies on the nature of the kinin-forming enzyme in rat intestinal tissue, 648P

  Kininase, inhibition of activity by bradykinin poten-
- tiating factor and dimercaprol, 305

---, interaction with aprotinin in blood, 558

#### L

Lactate dehydrogenase, in rabbit skin, measurement of changes in concentration after thermal injury, 437

Lactic dehydrogenase, in local lymph during homograft rejection, 650P

Lanatoside D, titration assay in the cat, to compare emetic and lethal potencies with those of other digitalis-like drugs, 143

LB 46, See prinodolol

Leptazol, convulsogenic activity induced by, in the developing rat, used to determine maturity of neuromechanisms, 31

Leucocytosis, caused by bradykinin or cellulose sulphate in the rat, role of the adrenal gland in, 631

Lignocaine, effects of, on experimental cardiac arrhythmias, 1

Lobeline, specificity for ganglion receptors compared with that of other ganglion stimulants, 137

LSD, See D-lysergic acid diethylamide

Lung, bovine, release of dopamine from, by specific antigen and by compound 48/80, 423

Lymph, intracellular enzymes in local, during homograft rejection, 650P

----, rabbit, enzyme concentrations in, after thermal injury, 437

D-Lysergic acid diethylamide, unexplained inhibitory action of, on postganglionic motor transmission in the guinea-pig vas deferens, 659P

#### M

Magnesium, differential effect of alterations in the concentration, on responses to sympathomimetic amines in the perfused rat mesentery, 663P

Mepyramine, effect of, on time course of oedema formation induced by carrageenin, 392

Mersalyl, effect of, on the adrenergic neurone blocking action of guanethidine, 352

Metabolic inhibitors, effects of, on uptake of quinidine by human blood platelets, 114

Metabolism, of ascorbic acid in female guinea-pigs, 637P

Metaraminol, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentrations, 512

—, differential effect of alterations in the calcium and magnesium concentrations on responses to, in the perfused rat mesentery, 663P

—, uptake kinetics in the guinea-pig Auerbach plexus, 661P

Methacholine, effect of intracerebroventricular iniection in the conscious mouse, 127

jection in the conscious mouse, 127 **3-Methoxytyramine**, some observations on the

estimation of, in brain tissue, 505

Methylamphetamine, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentration, 512

—, effect of acetylcholine output to low frequency parasympathetic nerve stimulation, 263

Methyl ergotamine, effects on platelets incubated with reserpine, 611

Methylhistamine, effects on histamine concentrations in mice after injection of histidine, 375

α-Methyl-noradrenaline, effect on electrocortical activity evoked in chick encephalé isolé preparations by amphetamine-like amines, 522

Methylphenidate, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentrations, 512

α-Methyl-p-tyrosine, effects of, on the analgesic activity of morphine and sympathomimetic drugs in the mouse, 512

—, effects on the concentrations of 3-methyltyramine and dopamine in brain, 505

α-Methyl-tryptamine, actions of, in chickens with brain transections, 522

Methysergide, effect of, on time course of oedema formation induced by carrageenin, 392

—, effect on electrocortical activity evoked in chick encephalé isolé preparations by amphetamine-like amines, 522

—, effects on platelets incubated with reserpine, 611 Migraine, effects on response of platelets to 5-hydroxy-tryptamine, of incubation with methysergide and reserpine, 611

MJ-1988. See quazodine

Monoamine oxidase, metabolism of 5-hydroxytryptamine in sheep, 273

Monoamine oxidase activity, in lamb sympathetic ganglia, vas deferens and adrenal medulla, effects of 6-hydroxydopamine on, compared with those of reserpine, 543

Monoamine oxidase inhibitors, comparison of the effects of morphine, pethidine and pentazocine in rabbits pretreated with pargyline, 485

—, effects of, on concentrations of 3-methoxytyramine in brain tissue, 505

Monoamines, brain, role in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with pargyline, 646P

Morphine, analgesia caused by, compared with that caused by sympathomimetic drugs, in the presence of drugs which change the brain catecholamine concentrations, 512

—, antinociceptive activity of, after injection of biogenic amines in the cerebral ventricles of the conscious rat, 230

—, cardiovascular effects on the cat and rabbit, 159 —, comparison of effects with those of pethidine and pentazocine in rabbits pretreated with a monoamine oxidase inhibitor, 485

—, patterns of behaviour in morphine tolerant, abstinent and non-tolerant rats, 473

Motor transmission, postganglionic, in the guinea-pig vas deferens, unexplained inhibitory action of D-lysergic acid diethylamide on, 659P

Muscarine, modification of the vascular response to isoprenaline. 254

Myocardial blood flow, and metabolic heat production, effects of quazodine in cats, 193

Myocardium, effects of indoramin hydrochloride, a new hypotensive agent, on, 664P

—, embryonic chick cell cultures, autonomic receptors and choline uptake in, 651P

—, human foetal, study of the contractile and electrophysiological maturation responses of, 653P

#### N

Nalorphine, cardiovascular effects on the cat and rabbit, 159

- Narcotic analgesics, cardiovascular effects of, on the cat and rabbit, 159
- Nephrectomy, bilateral, effect on hyperglycaemic response to diuretics in the mouse, 287

Nerve stimulation, effect of, on the adrenergic neurone blocking action of guanethidine, 352

- identification of prostaglandins in prevertebral venous blood after preganglionic stimulation of the cat superior cervical ganglion, 569
- Neurohypopysis, isolated, electrically evoked release of vasopressin from, in sodium-free media, 647P
- Neuromechanisms, maturation of, demonstrated by convulsogenic activity induced by leptazol in the developing rat, 31
- Neuromuscular transmission, effect of prostaglandin E<sub>1</sub>, in the frog nerve—sartorius muscle preparation, 153
- Neurotransmission, possible role of glycine as an inhibitory transmitter substance in mammalian spinal cord, 215
- —, effects of altered concentrations of central transmitters in rat brain on the antinociceptive activity of morphine, 230
- Nialamide, effect on the depressant activity of intracerebroventricularly injected ouabain in mice, 242
- Nicotine, effect of intracerebroventricular injection in the conscious mouse, 127
- —, measurement of uptake by and depolarization of isolated rat ganglia, 100
- —, specificity for ganglion receptors compared with that of other ganglion stimulants, 137
- Nociceptive threshold, of rats, effects of biogenic amines on. 230
- Noradrenaline, adrenoceptor function in cat sphincter of Oddi preparations, 447
- —, α-adrenoceptor mediation of central hyperthermic responses to, in rabbits (T), 668P
- —, cardiac, measured in rats after chemical sympathectomy with 6-hydroxydopamine, 497
- ---, cardiovascular reactivity to, in the intact hypertensive rat, 56
- —, cerebral, role of, in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with pargyline, 646P
- —, differential effect of alterations in the calcium and magnesium concentrations on responses to, in the perfused rat mesentery, 663P
- —, effect of, on the response of the human umbilical artery to tyramine in vitro, 155
- ---, effect of, on the adrenergic neurone blocking action of guanethidine, 352
- —, effect of frequency of stimulation on inhibition by, of acetylcholine output from parasympathetic nerve terminals, 263
- —, effect of prostaglandin E<sub>1</sub> on output of transmitter caused by, in frog nerve—sartorius muscle preparation, 153
- , effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230
- —, evidence for inhibition of reuptake by tetrahydronaphthylamine in rat brain, 281
- —, in lamb sympathetic ganglia, vas deferens and adrenal medulla, effects of 6-hydroxydopamine on, compared with those of reserpine, 543
- ---, in the brain, depletion by 6-hydroxydopamine,
- —, in the toad heart, effect of temperature on depletion by reserpine, 371
- ---, inhibition by atropine of increased turnover in the hypothalamus of rats exposed to cold, 224

#### Noradrenaline (contd.)

- —, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603
- ---, neurally evoked release of, from the olfactory bulb, 641P
- ---, potentiation by blood of the vasoconstrictor effect of, on the rabbit ear artery, 493
- —, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179
- —, uptake kinetics in the guinea-pig Auerbach plexus compared with those of metaraminol, 661P

#### O

- Octopamine, differential effect of alterations in the calcium and magnesium concentrations on responses to, in the perfused rat mesentery, 663P
- Oestrogens, effects of, on insulin antibody titres, 66 Olfactory bulb, neurally evoked release of noradrenaline from, 641P
- Opiates, patterns of behaviour in morphine tolerant and abstinent rats, 473
- Ouabain, centrally administered, pharmacological properties and their modification by other drugs, 242
- —, titration assay in the cat, to compare emetic and lethal potencies with those of other digitalis-like drugs, 143
- Oxotremorine, effect on acetylcholine content of whole brain and various brain regions in the pigeon, 303
- —, modification of the vascular response to isoprenaline, 254
- —, modification of effect in conscious mouse brain by atropine-like drugs, 127
- Oxygen uptake, in rabbit erythrocytes, effect of paraoxon, as a measure of metabolism, 298

#### P

- Paraldehyde, effect on the reticulospinal inhibitory pathway in decerebrate cats, 328
- Paraoxon, effect on erythrocyte metabolism as measured by oxygen uptake *in vitro*, 298

Paraquat, renal handling of, 636P

- Parasympathetic nerves, effect of frequency of stimulation on acetylcholine output from, 263
- Pargyline, comparison of the effects of morphine, pethidine and pentazocine in rabbits pretreated with, 485
- ----, effect on the reduction of brain catecholamines by 6-hydroxydopamine, 88
- —, role of brain monoamines in the fatal hyperthermia induced by pethidine or imipramine in rabbits pretreated with, 646P
- Pentazocine, comparison of effects with those of morphine and pethidine in rabbits pretreated with a monoamine oxidase inhibitor, 485
- Pentobarbitone, effect on the reticulo-spinal inhibitory pathway in decerebrate cats, 328
- Peptides, inhibitory effects of aprotinin on kallikrein and kininases in blood, 558
- Pethidine, cardiovascular effects on the cat and rabbit,
- —, comparison of effects with those of morphine and pentazocine in rabbits pretreated with a monoamine oxidase inhibitor, 485
- —, role of brain monoamines in fatal hyperthermia induced by, in rabbits pretreated with pargyline, 646P

- β-Phenethylamine, actions of, in chickens with brain transections, 522
- Pheniprazine, effects on the concentrations of 3methoxytyramine and dopamine in brain, 505 Phenoxybenzamine, adrenoceptor function in cat
- sphincter of Oddi preparations, 447
  —, effect on catecholamines in the toad heart,
- compared with that of reserpine, 371

  Phentolamine, inhibition of pulmonary vasocon-
- strictor activity of dopamine in cattle, 423

  —, measurement of ability to protect against induction by cocaine of supersensitivity to
- catecholamines in cat spleen, 603

  Phenylbutazone, effect on carrageenin-induced inflammation, compared with that of Wy 23205, a new non-steroidal anti-inflammatory agent,
- β-Phenylethylamine, in ox spleen extracts, 654P

638P

- Phosphodiesterase inhibitors, and catecholamines, interaction between, on contractions of the cat soleus muscle, 666P
- Physostigmine, comparison of actions of carbachol and acetylcholine on the chick biventer cervicis preparation in the presence of, 462
- Pilocarpine, effect of intracerebro-ventricular injection in the conscious mouse, 127
- —, modification of the vascular response to isoprenaline, 254
- Plasma, concentrations of chlorpromazine after oral administration, 403
- —, effect of, on the response of the rabbit ear artery to noradrenaline and angiotensin II, 493
- Plasma kininogen, effect of reduction by ellagic acid or saliva, on time course of oedema formation induced by carrageenin, 392
- ---, in vivo effects of cellulose sulphate on, in inflammation, 383
- Plasma membrane, of human blood platelets, binding to quinidine, 114
- Platelets, human blood, accumulation of quinidine by, and its effect on ultrastructure and endogenous 5-hydroxytryptamine, 114
- —, inhibition of aggregation and plug formation, when subjected to ultrasound and tested in the revolving plastic loop, 635P
- Polymethylene bis (hydroxyethyl) dimthylammonium compounds, effects of, on acetylcholine synthesis, 78
- Polyphloretin, studied as a prostaglandin antagonist,
- Polysaccharide, in vivo effect of cellulose sulphate on plasma kininogen, complement and inflammation, 383
- —, mediators of inflammation induced in the rat paw by, 392
- Potassium, effect of, on the adrenergic neurone blocking action of guanethidine, 352
- —, effect of solutions containing a high concentration of, on efflux of glycine from mammalian spinal cord in vitro, 215
- Practolol, antagonism by, of the antianaphylactic effect of isoprenaline, 620
- Pralidoxime mesylate, atropine sulphate absorption in humans following intramuscular injection of a mixture of atropine and, 645P
- Pressor agents, responses of mean arterial pressure to, in renal hypertensive and salt hypertensive rats, 179
- Prinodolol, and propranolol, relative potencies of, administered intravenously in man, 665P
- —, effect of, on the action of isoprenaline on the chronotropic responses of the isolated guinea-pig heart to vagal stimulation, 364

- Probenecid, effect of, on concentration of 3,4dihydroxyphenylacetic acid and 4-hydroxy-3methoxyphenylacetic acid in mouse striatum, 343
- **Procaine,** effect on the reticulospinal inhibitory pathway in decerebrate cats, 328
- Pronethanol, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603
- Propranolol, and prinodolol, relative potencies of, administered intravenously in man, 665P
- —, antagonism by, of the antianaphylactic effect of isoprenaline, 620
- —, blockade of the effects of isoprenaline and terbutaline on cat sphincter of Oddi preparations, 447
- , effects of, on experimental cardiac arrhythmias. 1
- **Prostaglandin** E<sub>1</sub>, effects on neuromuscular transmission in the frog nerve—sartorius muscle preparation, 153
- Prostaglandins, identification of, in prevertebral venous blood after preganglionic stimulation of the cat superior cervical ganglion, 569
- ---, studies on antagonists of, 584
- 7-oxa-13-Prostynoic acid, studied as a prostaglandin antagonist, 584
- Protein synthesis, in rabbit skin after thermal injury, injury, 437
- Proteins, of guinea-pig vas deferens, binding of H-(2-bromo ethyl)-N-ethyl-N¹-naphthylmethylamine HBr to, 428
- Psychoactive drugs, effects of, on brain catecholamine depletion produced by 6-hydroxydopamine, 88 Putrescine, in ox spleen extracts, 654P

#### Q

Quazodine, cardiovascular pharmacology of, with particular reference to effects on myocardial blood flow and metabolic heat production, 193

Quinidine, accumulation by and effect on human blood platelets, 114

### R

- Reflex potentials, segmental, abolition of reticular inhibition of, by anaesthetic agents, 328
- Renin, induction of hypovolaemia by thirst-inducing doses of, 25
- —, release from ischaemic rat kidneys, inhibition by spinal transection, 649P
  - —, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179
- Reserpine, action of, on lamb sympathetic ganglia, vas deferens and adrenal medulla, compared with that of 6-hydroxydopamine, 543
- —, effect of, on concentration of 3, 4-dihydroxyphenylacetic acid and 4-hydroxy-3-methoxyphenylacetic acid in mouse striatum, 343
- —, effect of methysergide on platelets incubated with, 611
- ——, effect of temperature on catecholamine depletion in the toad heart, 371
- —, effect on the antinociceptive activity of morphine in the cerebral ventricles of the conscious rat, 230
- Reticulospinal inhibitory pathway, blockade by anaesthetic agents, 328
- Ribosomes, in rabbit skin, effect of thermal injury, 437

- SC-19220. See 1-acetyl-2-(8-chloro-10, 11-dihydrodibenz (b, f) (1, 4) oxazepine-10-carbonyl) hydra-
- Scurvy, suppression of adrenocorticotrophic activity in the ascorbic acid deficient guinea-pig, 595
- Serine, binding of H-(2-bromo ethyl)-N-ethyl-N1naphthylmethylamine HBr to, in the guinea-pig vas deferens, 428
- Sheep, metabolism of 5-hydroxytryptamine, 273
- Shock, produced by burn, tourniquet and endotoxin, protection against by histamine, 5-hydroxytryptamine and 5-hydroxytryptamine derivatives,
- Skin, rabbit intracellular enzymes and protein synthesis in, after thermal injury, 437
- Smooth muscle, actions of acetylcholine and tetramethylammonium on the isolated taenia of the guinea-pig caecum, and the effect of hemicholinium-3 on such actions, 43
- -, from the rabbit caecum, electrical and mechanical properties of, 656P
- Sodium, effect of, on the adrenergic neurone blocking action of guanethidine, 352
- Sodium diethyldithiocarbamate, effect of intracerebroventricular injection in mice, 242
- Sodium gradient, effect of acetazolamide on, in cerebral cortex slices, 642P
- Sodium nitrite, response of aorta compared in rats of different ages, 311
- Somatomotor responses, in the developing rat, induced by leptazol, used to determine maturation of neuromechanisms, 31
- Sphincter of Oddi, cat, adrenoceptor functions in, in vitro, 447
- Spinal cord, mammalian in vitro, effect of electrical stimulation and high potassium concentrations on efflux of glycine from, 215
- Striatum, mouse, location of 3, 4-dihydroxy-phenyl and 4-hydroxy-3-methoxyphenylacetic acetic acid, 343
- SY28. See H-(2-bromo ethyl)-N-ethyl-N'-naphthylmethylamine HBr
- Sympathetic ganglia, lamb, effects of 6-hydroxydopamine compared with those of reserpine, 543
- Sympathetic nerves, measurement of the uptake of nicotine by isolated rat cervical sympathetic and nodose ganglia, 100
- Sympathetic nervous system, importance of, in the development of renal hypertension in the rat,
- Sympathomimetic amines, differential effect alterations in the calcium and magnesium concentrations on responses to, in the perfused rat mesentery, 663P
- Sympathomimetic drugs, analgesia caused by, compared with that caused by morphine, in the presence of drugs which change the brain catecholamine concentrations, 512

T

- Temperature, effect of, on depletion of catecholamines in the toad heart by reserpine, 371
- -, effect of, on the adrenergic neurone blocking action of guanethidine, 352
- Terbutaline, adrenoceptor function in cat sphincter of Oddi preparations, 447
- △'1Tetrahydrocannabinol, tritium labelled, distribution in the rat brain following intraperitoneal administration, 308

- 1, 2, 3, 4-Tetrahydroisoquinoline, effects on concentration of 3,4-dihydroxyphenylacetic acid and 4-hydroxy-3-methoxyphenylacetic acid in mouse striatum, 343
- Tetrahydronaphthylamine, evidence for inhibition of the reuptake of 5-hydroxytryptamine and noradrenaline in rat brain, 281
- β-Tetrahydronaphthylamine, actions of, in chickens with brain transections, 522
- Tetramethylammonium, actions on the isolated taenia of the guinea-pig caecum compared with those of acetylcholine, 43
- Tetrodotoxin, effect of, on the adrenergic neurone blocking action of guanethidine, 352
- , effect of, on the automaticity of cat sphincter of Oddi preparations, 447
- Thermal injury, intracellular enzymes and proteins, synthesis in rabbit skin after, 437
- Thermoregulation, evidence for inhibition of the reuptake of 5-hydroxytryptamine and noradrenaline by tetrahydronaphthylamine in rat brain, 281
- -, inhibition by atropine of the increased turnover of noradrenaline in the hypothalamus of rats exposed to cold, 224
- -, possible role of histamine, 205
- Thirst, induction by renin or angiotensin by causing hypovolaemia, 25
- Titration assay, in the cat, to compare emetic and lethal potencies of digitalis-like drugs, 143
- Toad heart, temperature dependence of catecholamine depletion by reserpine in, 371
- Tourniquet, shock produced by, protection against by histamine, 5-hydroxytryptamine and 5-hydroxytryptamine derivatives, 13
- Tranyleypromine, effects on the concentrations of 3-methoxytyramine and dopamine in brain, 505
- Tribromethanol, effect on the reticulospinal inhibitory pathway in decerebrate cats, 328
- Triethylcholine, comparison of actions of carbachol and acetylcholine on the chick biventer cervicis preparation in the presence of, 462
- Tryptamine, actions of, in chickens with brain transections, 522
- Tuaminoheptane, actions of, in chickens with brain transections, 522
- Tubocurarine, comparison of actions of carbachol and acetylcholine on the chick biventer cervicis preparation in the presence of, 462
- Tyramine, adrenoceptor function in cat sphincter of Oddi preparations, 447
- cardiovascular reactivity to, in the intact hypertensive rat, 56
- -, differential effect of alterations in the calcium and magnesium concentrations on responses to, in the perfused rat mesentery, 663P
- -, effect of, on catecholamines in the toad heart, compared with that of reserpine, 371
- -, effect of, on human umbilical artery in vitro, 155 -, in ox spleen extracts, 654P
- -, measurement of ability to protect against induction by cocaine of supersensitivity to catecholamines in cat spleen, 603
- , responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179
- Tyrosine hydroxylase, in the brain, effect of 6-hydroxydopamine administration, 88
- , in lamb sympathetic ganglia, vas deferens and adrenal medulla, effects of 6-hydroxydopamine on, compared with those of reserpine, 543

682

U

Ultrasound, effect on aggregation and plug formation of platelets, tested in the revolving plastic loop, 635P

Umbilical artery, human, effect of tyramine in vitro, 155

Uptake mechanisms, evaluation of neuronal and extra-neuronal, during adrenergic nerve stimulation, 660P

#### V

Vagal stimulation, chronotropic responses of the isolated guinea-pig heart to, effect of isoprenaline and aminophylline on, 364

Vasoconstriction, potentiation of the effects of noradrenaline and angiotensin II on the rabbit ear artery by blood, 493

Vasodilation, modification of the vascular response to isoprenaline by cholinomimetic drugs, 254

Vasopressin, cardiovascular effects on the rabbit, 159—, electrically evoked release of, from isolated neurohypophyses in sodium-free media, 647P

—, responses of mean arterial pressure to, contrasted in renal hypertensive and salt hypertensive rats, 179

#### W

Wy 21901. See indoramin hydrochloride
Wy 23205, a new non-steroidal anti-inflammatory
agent, 638P

#### X

Xylose, uptake by cerebral cortex slices, effect of acetazolamide on, 642P

## Instructions to Authors

- 1. Manuscripts (2 copies) should be typed in double spacing on one side of paper not larger than foolscap ( $33 \times 20.5$  cm). There should be a separate title page giving the names and addresses of the authors in alphabetical order. A short title containing not more than 40 letters should also be suggested.
- 2. A short summary of results and conclusions (arranged in numbered paragraphs), tables and legends to figures should be typed on separate sheets of paper.
- 3. References should be collected at the end of the paper. They should include the authors' names, year of publication, 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.
- 4. Figures should NOT BE LARGER THAN FOOLSCAP ( $33 \times 20.5$  cm) 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.
- 5. Lettering on figures should be inserted in PENCIL. Symbols which are to appear in figures or legends should be chosen from the following:
  - $\times$  + • • • • • • • •
- 6. **Photographs and photomicrographs** should be printed on glossy paper and should be larger than the size required for reproduction.
- 7. **Tables** ideally should not have more than 84 characters to a line (counting spaces between columns as 4 characters) and certainly not more than 130 characters to a line, unless absolutely unavoidable.
- 8. An abstract of about 100 words suitable for inclusion in *International Abstracts* of Biological Sciences should be typed on a separate sheet.

General remarks. A recent issue of the journal is a good guide to style. Papers are accepted only if accompanied by a statement that they have not and will not be published in whole or in part in any other Journal.

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.

Fifty 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.

## BRITISH JOURNAL OF PHARMACOLOGY August 1971 Volume 42 Number 4

page

#### Systematic Pharmacology

- 497 GREWAL, R. S. and KAUL, C. L. Importance of the sympathetic nervous system in the development of renal hypertension in the rat. (SP1)
- 505 GULDBERG, H. C., SHARMAN, D. F. and TEGERDINE, P. R. Some observations on the estimation of 3-methoxytyramine in brain tissue. (SP2, PK2)
- 512 MAJOR, C. T. and PLEUVRY, BARBARA J. Effects of α-methyl-p-tyrosine, p-chlorophenylalanine, L-β-(3,4-dihydroxyphenyl)alanine, 5-hydroxytryptophan and diethyldithiocarbamate on the analgesic activity of morphine and methylamphetamine in the mouse. (SP2, DM1)
- 522 MARLEY, E. and STEPHENSON, J. D. Actions of dexamphetamine and amphetamine-like amines in chickens with brain transections. (SP2, DM2)

#### Autopharmacology

- 543 CHEAH, T. B., GEFFEN, L. B., JARROTT, B. and OSTBERG, A. Action of 6-hydroxydopamine on lamb sympathetic ganglia, vas deferens and adrenal medulla: a combined histochemical, ultrastructural and biochemical comparison with the effects of reserpine. (API, DMI)
- 558 POJDA, S. M. and VANE, J. R. Inhibitory effects of aprotinin on kallikrein and kininases in dog's blood. (AP2, SP1, PK2)
- 569 DAVIS, HEATHER A., HORTON, E. W., JONES, K. B. and QUILLIAM, J. P. Identification of prostaglandins in prevertebral venous blood after preganglionic stimulation of the cat superior cervical ganglion.

  (AP2, PK3)
- 584 BENNETT, A. and POSNER, J. Studies on prostaglandin antagonists. (AP2, DM2)
- 595 Hodges, J. R. and Hotston, R. T. Suppression of adrenocorticotrophic activity in the ascorbic acid deficient guinea-pig. (AP3)

#### **Drug Mechanisms**

- 603 INNES, I. R. and KARR, G. W. Protection against induction of supersensitivity to catecholamines by cocaine. (DM2
- 611 CUMINGS, J. N. and HILTON, BARBARA P. Effects of methysergide on platelets incubated with reserpine. (DM2, SP3)
- 620 Assem, E. S. K. and Schild, H. O. Antagonism by 3-adrenoceptor blocking agents of the antianaphylactic effect of isoprenaline. (DM2, AP1)

#### SHORT COMMUNICATION

- 631 ROTHSCHILD, A. M. Role of the adrenal gland in the leucocytosis caused by bradykinin or cellulose sulphate in the rat. (AP2)
- 635P PROCEEDINGS OF THE BRITISH PHARMACOLOGICAL SOCIETY, ABERDEEN, 12-14 July, 1971. (See pp. i, iii and v for contents)

#### Systematic Pharmacology

Cardiovascular system SP1 Central nervous system SP2 Other physiological systems SP3

#### **Pharmacokinetics**

Storage, distribution, fate PK1 Synthesis, metabolism PK2 Uptake, release PK3

Clinical Pharmacology, Experimental Therapy CP Chemotherapy CT Miscellaneous M

#### Autopharmacology

Adrenergic, cholinergic transmission AP1 Histamine, kinins, prostaglandins, etc. AP2 Hormones AP3

#### Drug Mechanisms

Molecular, cellular, biochemical, biophysical DM1 Receptors, antagonism, potentiation, tolerance DM2

Pharmacometrics PM Psychopharmacology PP Toxicology TX