

# PHARMACOLOGY BIOCHEMISTRY AND BEHAVIOR

Editor-in-Chief

MATTHEW J. WAYNER

Brain Research Laboratory, Syracuse University, 601 University Avenue, Syracuse, N. Y. 13210 U.S.A.

## Regional Editors

R. L. BALSTER, Department of Pharmacology, Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia 23298

A. BARBEAU, Department of Neurobiology, Clinical Research Institute of Montreal, 110 West Pine Avenue, Montreal (130), Quebec, Canada

J. R. BOISSIER, Faculté de Médecine de Paris, Unité de Neuro-psychopharmacologie, 2 rue d'Alésia, 75014 Paris, France

G. R. BREESE, Department of Psychiatry, University of North Carolina School of Medicine, Chapel Hill, North Carolina 27514

E. A. CARLINI, Department of Psychobiology, Escola Paulista de Medicina, Rua Botucatu, 862, 04023 - São Paulo, Brasil

J. COCHIN, Department of Pharmacology and Experimental Therapeutics, Boston University School of Medicine, 80 East Concord Street, Boston, Massachusetts 02118

D. V. COSCINA, Section of Neurochemistry, Clarke Institute of Psychiatry, 250 College Street, Toronto, Ontario M5T 1R8, Canada

B. COX, Pharmaceuticals Division, Imperial Chemical Industries, Ltd., Mereside, Alderly Park, Macclesfield, Cheshire, United Kingdom SK10 4TG

G. ELLMAN, Brain Behavior Research Center, Sonoma State Hospital, Eldridge, CA 95431

K. ERIKSSON, Research Laboratories of State Alcohol Monopoly, Box 350, 00101 Helsinki 10, Finland

J. L. FALK, Department of Psychology, Rutgers University, New Brunswick, New Jersey 08903

E. GELLER, Neurobiochemistry Laboratory, T-85 Veterans Administration, Brentwood Hospital, Los Angeles, California 90073

S. P. GROSSMAN, Department of Psychology, University of Chicago, Chicago, Illinois 60637

Y. GÜTMAN, Department of Pharmacology, The Hebrew University, Hadassah Medical School, P.O. Box 1172, Jerusalem, Israel

J. HANO, Polish Academy of Sciences, Institute of Pharmacology, 52, Ojcowska Street, 31 344 Krakow, Poland

J. A. HARVEY, Department of Psychology, University of Iowa, Iowa City, Iowa 52242

P. JANSSEN, Research Laboratoria, Janssen Pharmaceutica, 2340-Beerse, Belgium

D. A. KHARKEVICH, Department of Pharmacology, First Medical Institute, 2/6, Bolshaja Pirogovhskaja Street, Moscow, G-435, USSR

J. KNOLL, Director, Department of Pharmacology, Semmelweis University of Medicine, 1445 Budapest, VIII, Nagyvárad tér 4

I. P. LAPIN, Laboratory of Psychopharmacology, Bekhterev Institute, Bekhtereva ul., 3, 193019 Leningrad, USSR

A. E. LEBLANC, Biological Studies Research Division, Alcoholism and Drug Addiction Research Foundation, 33 Russell Street, Toronto, Ontario M5S 2S1, Canada

V. G. LONGO, Istituto Superiore di Sanità, Viale Regina Elena 299, 00161 Roma, Italy

H. MATTHIES, Institut für Pharmakologie und Toxikologie, Medizinische Akademie Magdeburg, 301 Magdeburg, Leipziger Strasse 44, German Democratic Republic

N. K. MELLO, Alcohol and Drug Abuse Research Center, Harvard Medical School, McLean Hospital, Belmont, Massachusetts 02178

R. D. MYERS, Departments of Psychiatry and Pharmacology, University of North Carolina School of Medicine, Chapel Hill, NC 27514

R. H. RECH, Department of Pharmacology, Michigan State University, B440 Life Sciences, East Lansing, Michigan 48824

C. R. SCHUSTER, Department of Psychiatry, University of Chicago, 950 East 59th Street, Chicago, Illinois 60637

D. S. SEGAL, Department of Psychiatry, School of Medicine, University of California, San Diego, La Jolla, California 92037

L. S. SEIDEN, Department of Pharmacology, University of Chicago, Chicago, Illinois 60637

E. B. SIGG, Wyeth Laboratories Inc., P.O. Box 8299, Philadelphia, PA 19101

G. SINGER, Department of Psychology, La Trobe University, Bundoora, Victoria 3083, Australia

T. L. SOURKES, Allan Memorial Institute of Psychiatry, 1025 Pine Avenue West, Montreal 112, P.Q., Canada

W. C. STERN, Medical Division, Burroughs Wellcome Co., 3030 Cornwallis Road, Research Triangle Park, NC 27709

S. TADOKORO, Behavior Research Institute, School of Medicine, Gunma University, 3-39-22, Showamachi Maebashi 371, Japan

T. THOMPSON, Department of Psychiatry, University of Minnesota, Research Unit, Medical School, Box 392, Mayo Memorial Building, Minneapolis, Minnesota 55455

U. UNGERSTEDT, Department of Pharmacology, Karolinska Institutet, S-104 01 Stockholm 60, Sweden

W. L. VEALE, Division of Medical Physiology, Faculty of Medicine, University of Calgary, Calgary, Alberta, Canada

J. E. VILLARREAL, Department of Behavioral Pharmacology, Instituto Miles de Terapeutica Experimental, Division de Laboratorios Miles de Mexico, S.A. de C.V., Apartado Postal 22026, Mexico 22, D.F.

Z. VOTAVA, Department of Pharmacology, Research Institute of Pharmacy and Biochemistry, Praha 3, Koufimská 17, Czechoslovakia

W. WUTTKE, Institut für Pharmakologie, Farbenfabriken Bayer AG, 56 Wuppertal-Eiberfeld, Friederich-Ebert-Straße 217, Germany

T. YANAGITA, Central Institute for Experimental Animals, 1433 Nogawa, Kawasaki 211, Japan

## Editorial Advisory Board

B. AGRANOFF (*Ann Arbor*)

B. BEER (*Pearl River*)

M. H. APRISON (*Indianapolis*)

E. F. DOMINO (*Ann Arbor*)

D. X. FREEDMAN (*Chicago*)

E. GLASSMAN (*Chapel Hill*)

H. KALANT (*Toronto*)

A. J. MANDELL (*San Diego*)

J. MENDELSON (*Boston*)

J. ROSECRANS (*Richmond*)

P. A. SHORE (*Dallas*)

S. H. SNYDER (*Baltimore*)

E. USDIN (*Rockville*)

R. J. WURTMAN (*Cambridge*)

## PHARMACOLOGY BIOCHEMISTRY & BEHAVIOR

ISSN 0091-3057

Subscription, postpaid \$300 per year for Libraries, Research Establishments and all other multiple user Institutions. Private individuals whose departmental libraries subscribe may obtain this Journal for their personal use at a reduced rate of \$40 per year.

*Publishing and Advertising Offices:*

ANKHO International Inc.

7374 Highbridge Terrace, P.O. Box 426, Fayetteville, New York 13066 U.S.A.

Back issues are available. Write for Back Issue Price List.

Published monthly. Copyright © 1981 ANKHO International Inc.

Second class postage paid at Fayetteville, NY 13066

Postmaster: If undeliverable send POD Form 3579 to P.O. Box 426, Fayetteville NY 13066

Printed at SALINA PRESS, Syracuse, New York, U.S.A.