
BOOK REVIEWS



CANNABIS UND CANNABINOIDE. PHARMAKOLOGIE, TOXIKOLOGIE UND THERAPEUTISCHES POTENTIAL. Grotenhermen, F. (Hrsg.). 2001. Bern, Germany: Huber, 469 pp., DM 68, Euro 34.77, softcover.

CANNABIS AND CANNABINOIDS. PHARMACOLOGY, TOXICOLOGY, AND THERAPEUTIC POTENTIAL. Grotenhermen, F., and E. Russo (Eds.). 2002. Binghamton, NY: The Haworth Press, Inc.: *in press*.

The fascinating field of cannabis and cannabinoid research has expanded within the last few years into a wide and complex landscape. This is mainly due to the discovery of a neuromodulator/neurotransmitter system with specific cannabinoid receptors and their endogenous ligands, involved in pain perception, short term memory, immunomodulation, regulation of muscle tone, blood pressure, intraocular pressure and appetite, in reproduction and various other functions. This system has been found in mammals, fish and invertebrates down to primitive leeches and thus appears to be many millions of years old.

Insights into the natural and pathological function of this endocannabinoid system have fundamentally facilitated our understanding of the therapeutic actions of exogenous cannabinoids, as well as their possible detrimental effects. Some non-receptor mediated effects have been discovered as well, and are current subjects of laboratory and clinical investigations.

It has become impossible for a researcher to overview all the facets and aspects of cannabinoid chemistry, pharmacokinetics and pharmacodynamics, of neuropharmacology, medicinal uses and health hazards.

Every year more than 300 papers on the subject appear in international journals, bearing witness of the increasing available data and explanations on the mechanisms of action of cannabinoids.

This book [appearing in German and English editions] is overdue and timeless, bringing together experts in their areas, scientists, clinicians and practitioners with a deep understanding of the subject they present in this volume, among them Raphael Mechoulam, Roger Pertwee, Rick Musty, Nadia Solowij, Robert Clarke, Kirsten Müller-Vahl, Antonio Zuardi, and Rudolf Brenneisen, just to mention eight contributors from eight different countries.

In 38 chapters on 469 pages [German edition] we find a presentation of nearly every medical aspect of the cannabis plant and the cannabinoids, that may interest scientists and health care professionals desiring an overview on the current state of knowledge. Subjects extend from the medical use of cannabis products in ancient times, to recent research results on the endocannabinoid system, from the botany of natural cannabis as medicine to the properties of promising cannabinoid derivatives under clinical investigation, from the mechanisms of cannabinoid analgesia and of neuroprotective effects, to practical dosage advices, the management of an acute overdose and possible interactions with other medical drugs.

The editor not only succeeds in bringing together about 50 renowned experts with different backgrounds and views representing the broad knowledge of cannabinoid research, but also in creating a well-structured readable book. Franjo Grotenhermen and the contributors to this volume can be congratulated for the result of their efforts. In particular in the German language area, Grotenhermen, Chairman of the International Association for Cannabis as Medicine, is known for his pleasant matter of fact attitude towards controversial topics surrounding the pharmacological actions of the drug, with a spirit found in this book as well. I appreciate his ability to present complex issues in a clear and comprehensible way.

The thirty-eight chapters are divided into six sections, the first dealing with botany, taxonomy, chemistry and history, the second with pharmacology and pharmacokinetics, the third with indications for medical use of cannabis and THC. The fourth section examines the possible risks and side effects of cannabis, and the fifth therapeutic uses of other cannabinoids (cannabidiol, anandamide, ajulemic acid and dexanabinol). In the last section we learn about other constituents of the hemp plant with possible medical value (terpenes, flavonoids, fatty acids and others).

You may find that you do not start reading the book at the beginning, but rather leaf through it, stop at one of the many figures and illustrations, at a certain table or heading, first concentrating on a chapter of your personal interest. What is known about the use of cannabinoids in migraine treatment? What are the consequences of prenatal exposure to cannabis? What restrictions on medical use should merit attention? Four of the six sections are introduced by comprehensive reviews allowing a quick orientation on pharmacological actions of cannabinoids, therapeutic uses and main side effects.

Authors with different views on the therapeutic benefits of cannabis and with contrasting assessments of potential adverse effects receive a hearing in this book. There is a chapter on “dependency” in the section on therapeutic indications for cannabis and THC and in the section on risks and side effects. It is not surprising that Tod Mikuriya, a Californian psychiatrist and practitioner dealing with patients who use cannabis to treat mood disorders and addiction to alcohol and opiates has a different approach to cannabis and dependency as compared to Wayne Hall, Head of the National Drug and Alcohol Research Center in Sydney, who is, for example, more often confronted with recreational users who have addiction problems with heavy chronic use of marijuana. There is a chapter dealing with possible side effects on the immune system by Guy Cabral, as well as a chapter debating the possible therapeutic implications for autoimmune diseases by Robert Melamede. Other controversial issues examined in the book are the use of natural cannabis products versus single cannabinoids, long-term effects of cannabis on cognition, fertility, and the hormonal system.

This is not a mainstream book. Every reader will find statements and conclusions of some authors that will provoke disagreement. These statements reflect the preliminary status of different findings, the background of the corresponding author and his or her attitude in an area of continuous conflict called the cannabis debate. Thus, the book will not give final answers to many questions, but it allows a deep insight into the many aspects of the ongoing controversies and provides a great deal of up-to-date information on the current state of knowledge that makes it a valuable reference book.

Leslie Iversen, professor of pharmacology at Oxford University and main scientific adviser for the House of Lords inquiry of cannabis in 1998 writes in his preface: “The editors should be congratulated for

having assembled such a well balanced volume.” Everything you’ve always wanted to know about cannabis (but were afraid to ask), you get to know in this book. This book is an absolute must.

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ADVANCES IN HEMP RESEARCH. Ranalli, Paolo (editor). *Binghamton, NY: Food Products Press, 1998, 266 p., \$99.95, hardcover.*

This book represents a true international collaboration of authorities presenting the latest information on culture and processing of cannabis. Although primarily geared toward industrial hemp and its applications, this volume also presents interesting information on the botany of cannabis, its phytochemistry, and methods for detecting and monitoring plant THC content, which is a necessary element for any cultivation program due to national and international regulations.

David Pate’s chapter on hemp seed as a food resource is a particular standout with therapeutic implications, representing one of the few accessible scientific analyses of the dietary implications of linolenic, linolenic, and gamma linolenic acids in health and disease.

This book would be essential reading for any commercial or research cultivator of cannabis.

Ethan Russo, MD

WAITING TO INHALE: THE POLITICS OF MEDICAL MARIJUANA. Bock, Alan. *Santa Ana, CA: Seven Locks Press, 2000, 285 p., \$18.95, softcover.*

Alan Bock is a senior editorial writer for the *Orange County Register*. He has stepped aside from those duties long enough to document the modern history (especially 1996-present) of clinical cannabis in the USA, with a particular focus on California, arguably the epicenter of its political development.

This book is a well-conceived and readable chronology of events that examines the topic from both sides of the issue. A refreshing number of direct quotations and testimony provide the reader with the feeling of “being there,” and taking part in the unfolding history. While decidedly “pro” on the issue of clinical cannabis, the arguments of the government, and the applicable laws, are examined in fine detail. Thus, the positive opinion is a studied one that is amply justified in the text.

Any historian or sociologist examining the history of this topic will find this book indispensable. Similarly, the author tackles the medical and legal issues in a manner that is approachable for readers who lack the corresponding professional backgrounds.

This book is a worthy successor and complement to the earlier medical histories of Musto, legal analyses of Bonnie and Whitebread, and period pieces of Sloman.

Ethan Russo, MD

HEMP DISEASES AND PESTS: MANAGEMENT AND BIOLOGICAL CONTROL. McPartland, J. M., R. C. Clarke, and D. P. Watson. *Wallingford, UK: CABI Publishing, 2000, 251 p., \$100, hardcover.*

It is infrequently the case that a book can be labeled as definitive or authoritative, but these are appropriate terms describing this volume and its treatment of the subject matter. It manages a difficult task by being simultaneously comprehensive, scientifically sound, visually striking, and entertaining to read. The informative text is supplemented by astonishing photographs of the myriad organisms that infest, parasitize or feed upon the cannabis plant. It is frequently stated in the lay litera-

ture that hemp is “pest-free,” but this is only a relative statement. *Hemp Diseases and Pests* illustrates this fact in a convincing fashion in its treatment of the insect, bacterial, viral, fungal and animal species that act as cannabis predators.

The necessarily academic tone is nicely punctuated by disarming humor: One table of cannabis insects is captioned, “Bugs-the good, the bad, and the ugly (all x6).” It is to the publisher’s credit that such examples were retained in the final version.

The book is also refreshing for its completeness. It is not content to merely describe each cannabis affliction, but rather, proceeds to examine its ecological role and remedies by chemical, beneficial bug, or rational organic methods. The latter are emphasized as preferred methods for cannabis culture designed for human consumption. A dichotomous key of diseases and pests is sufficiently useful to justify the price of the book on its own merit.

From a therapeutic standpoint, important information is highlighted with regard to the control of fungal pathogens representing a danger to immunosuppressed clinical cannabis patients, both before and after harvest.

This book should be considered essential for any individual or institution engaged in research on the cannabis plant and its culture.

Ethan Russo, MD

MOM’S MARIJUANA: INSIGHTS ABOUT LIVING. Shapiro, Dan.
New York: Harmony Books, 237 p., \$20, hardcover.

This book is a little gem. Dr. Shapiro is a clinical psychologist and faculty member at the University of Arizona in Tucson. The fact that he survived to achieve this position is the story portrayed in the narrative, which documents a personal battle of many years against Hodgkin’s disease, including two separate and harrowing bone marrow transplantation procedures.

More particularly, this is the story of love and faith, between a young man, his wife and family, and the role of cannabis in assisting his survival. That story is told with gripping drama, ironic humor, and passion. It is a stirring testimony to the power of the human spirit that provides

lessons to us all. This is the medical marijuana controversy with a human face, which transcends the pre-conceived notions, biases and politics to force a view of a frequently grim reality.

This story would make a terrific movie, and were it to be cast with Tom Hanks as Shapiro, and Renée Zellweger as his spouse, I daresay that the current American War on Drugs, or at least the battle of clinical cannabis, would be over within months.

Ethan Russo, MD