



## Book Reviews

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ANTIBACTERIAL CHEMOTHERAPEUTIC AGENTS; by S. L. Dax. Blackie Academic and Professional, London, England. ISBN 0 7514 02893, £89.00, 396 pp.

Single-author volumes in the chemical/pharmaceutical sciences are becoming distinctly less common as the breadth of knowledge necessary to embrace the required content increases. Thus any book of that ilk represents a tour-de-force for which a dedicated author is to be congratulated. This volume by Dax is certainly a very high quality product, from the diagrams and figures, through to the quality of the typesetting and the paper, there is a clear sense of commitment to excellence which is sometimes lost in volumes derived from camera-ready materials.

The chapter sequence begins with an introduction to the history of anti-infective chemotherapy and a summary of the covered diseases and their etiology. These are some of the most dreaded diseases of our, or any previous, times; diseases of death from the past (bubonic plague, polio and smallpox) and of the present (cholera, AIDS and malaria). There is a section describing the species of organism involved in each of these diseases and then the volume is organised into eight chapters based on the chemical class of the antibacterial agent. In sequence these are presented as sulfa antibacterials and arylpyrimidine antifolates,  $\beta$ -lactam antibiotics, tetracycline antibiotics, aminoglycoside antibiotics, non-peptidic macrocyclic antibacterials, quinolone antibacterials, peptidic antibacterial agents and miscellaneous antibacterial agents. A typical chapter covers the history of the discovery of the chemical class, the mode of action, the structural features and structure-activity relationships, synthetic approaches, resistance and a discussion of recent advances. The chapters close with a list of suggested readings.

There is no book, to the best of my knowledge, which compresses this particular set of information into a single volume. Indeed some of the individual chapters have well-established volumes dedicated to them already (e.g. *The Tetracyclines* by Hlavka and Boothe). Thus the effort to present the material in this format is to be roundly applauded. The discussion is detailed and authoritative and the sections discussing structure-activity relationships are well organised. One hopes that this strongly recommended volume will find its way on to the shelves of many medicinal and pharmaceutical chemists, even at a time when a commitment to the discovery of new antibiotics by world-wide pharmaceutical industry is declining. This brings me to some criticisms that I have of this volume which fall into two categories.

Overall, the volume is remarkably error-free from the perspective of the structures and the text. However, the punctuation in certain areas is patchy and there is some confusion about when to, and when not to, use italics. I also found it odd to see the term "plagued" used in discussing various infectious diseases, many of which are, of course, "plagues".

The volume is being published at a time when the pharmaceutical industry is turning away from the evaluation of large numbers of fermentation broths for the discovery of novel antibacterial (as well as antifungal, antiviral and anticancer) agents. Surprisingly though, there is no discussion in this volume of the antibacterial drug discovery process, its current evolution pattern and how it could develop in the future.

In addition, there is absolutely no discussion of, and therefore reverence for, the biosynthesis of the naturally-derived antibiotics. As a result, there is a distinct feeling engendered in the volume of a separation between the natural world, with which scientific "battles" are being waged by increasingly active (and costly) antibiotics, and humans. A concluding chapter addressing intellectual property issues, global bacterial infectious disease strategies for the future, and the cost/benefit equation in a managed care situation of a high-priced antibiotic, would have been an interesting addition to this well-crafted volume.

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CHINESE DRUG MONOGRAPHS AND ANALYSIS, H. Wagner, R. Bauer, Xiao Pei-gen and Chen Jianming. VGM GmbH, Kötzing, Germany. ISSN 1430-8290, 39.00 DM, variable pp.

Wagner, Bauer, Xiao and Chen are compiling an ambitious series of 100–150 monographs on the use and analysis of Chinese medicinal plants entitled *Chinese Drug Monographs and Analysis*. Publication was initiated in 1996, and the first four monographs in the series, *Radix bupleuri*, *Bulbus fritillarriae*, *Radix rehmanniae*, and *Fructus schizandrae*, are the subject of this review.

Respectively, the monographs are eleven, nine, thirteen, and eight pages in length. The cover of the monograph provides a colour photo of the plant with an inset photo of the plant part used medicinally. The monographic descriptions embrace the pharmacopoeias where the plant is currently listed, where the medicinal value(s) of the plant was first cited, the nature of the official drugs in the respective Chinese and any other pharmacopoeias, the commonly found adulterants of the plant, a description of the drug(s), and what pre-treatment of the drug is required to prepare it for use. This is followed by a summary of the medicinal uses of the plant, and the effects and indications according to Traditional Chinese Medicine. The principal chemical constituents are summarised by structure class and two-dimensional formulae are presented for the main active constituents. This is followed by the biological aspects covering both the *in vitro* and *in vivo* activities which have been noted. The mammalian species for the *in vivo* activities are also given.

A substantial emphasis is placed on the analytical aspects of the plant extracts, and separate sections are devoted to TLC and HPLC fingerprint analysis. In both instances, standards for the principal active compounds are used, and analytical comparison is made with samples from several different sources or with related species which might be regarded as substitutes for the official drug. Clear indications are provided for the solvent system and the optimum system for detection. A clear photograph of the TLC comparison is displayed, together with the HPLC chromatograms of typical drug products. UV spectra, derived from the photodiode array detector, are included for each of the principal components. One hopes that, as the series proceeds, corresponding total ion current electrospray mass spectral data for these extracts will also be included. The chemical and biological data and the analytical procedures are well referenced.

These monographs will be an invaluable source of information for many natural product chemists who are involved with the analysis of Chinese medicinal plants. They are beautifully produced and the data are elegantly presented. One can imagine that over time they will accumulate to become an outstanding cornucopia of information on some of the most widely used medicinal plants in the world. Congratulations to both the authors and the publishers for a quality product. One would hope that eventually the series could also be made available in CD-ROM format, as well as being available by subscription for downloading on the web.

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