

\$800 million to \$1.7 billion. The crisis in global health care is there for all to see, yet few are bringing the crisis to the attention of those who can make a difference. In certain ways, by providing a history of the success of microbial drug discovery and the success of developing anticancer natural products, and highlighting the innovative strategies under development, this book helps to raise awareness of some of these issues.

This volume contains sixteen chapters, separated into five themes: (i) fundamental issues related to natural product-based drug delivery, (ii) strategies, (iii) specific groups of drugs, (iv) microbial diversity, and (v) specific sources. Discovery from microbial sources is certainly the focus of the chapters, but there is also coverage of discoveries from plant and marine sources. The topics covered include: Natural products and drug discovery (Demain and Zhang); Integrated approaches for discovering novel drugs from microbial natural products (Zhang); Automated analyses of HPLC profiles of microbial extracts (Tormo and García); Manipulating microbial metabolites for drug discovery and production (Hutchinson); Improving drug discovery from microorganisms (Farnet and Zazopoulos); Developments in strain improvement technology (del Cardayré); The discovery of anticancer drugs from natural sources (Newman and Cragg); Case studies in natural-product optimization (Hong and Chen); Terpenoids as therapeutic drugs and pharmaceutical agents (Wang, Tang, and Bidigare); Challenges and opportunities in the Chinese herbal drug industry (Jia and Zhang); Arsenic trioxide and leukemia (Chen, Wang, Yan and Chen); New methods to access microbial diversity for small molecule discovery (Zengler, Paradkar, Keller); Accessing the

genomes of uncultivated microbes for novel natural products (Martinez, Hopke, MacNeil, Osburne); New natural product diversity from marine Actinomycetes (Jensen and Fenical); Novel natural products from rain-forest endophytes (Strobel, Daisy nad Castillo); and Biological, economic, ecological and legal aspects of harvesting traditional medicine in Ecuador (Guevara-Aguirre and Chiriboga). A fairly comprehensive subject index concludes the volume.

The chapters reflect research at the forefront of natural product drug discovery, especially in the microbial area, in which innovative techniques for new sources of microbial metabolites are under rapid development. Drug discovery is about creating value in compounds and as more of the “right” compounds are biologically evaluated, the chances of success should improve. There is consequently a substantial focus in the chapters on disclosing new compounds to test.

The volume is an important and essential acquisition for those libraries supporting the efforts of natural product research groups, and for individual scientists in the field. The book is reasonably priced and provides very readable insight into many different aspect of natural product drug discovery.

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**Mark Wright, *An Introduction to Chinese Herbal Medicine with Particular Reference to the Chinese Umbelliferae*, Greenbank Publications Ltd., Edinburgh, 2004, ISBN 0-9547334-0-1, p xxx + 536**

The title of this book does not fully reflect its contents: it goes far beyond just being a “light-weight” introduction to Chinese herbal medicine; it gives a thorough insight into this subject. It provides a rich source of information which should be appreciated when discussing on issues related to development of Chinese herbal medicine and its steadily increasing popularity in the west. The main intention of the book according to the author is to bridge the gap of understanding between herbalists and botanists who both look at the same door but from different sides.

The book is divided up into three main parts. Already the introductory remarks provide some interesting reflections on the challenge to translate a Chinese writ-

ten name of a Chinese herbal drug into an English name that is equivalent and unequivocal.

Part 1 represents the introductory sections starting with a profound introduction to the historical roots of Chinese herbal medicine. Looking at the recent developments the author clearly states his concern about the tremendously increased recruitment of plants to be officially documented in the Chinese Herbal during the last decades.

Section II provides a very readable introduction to the concepts of Chinese herbal medicine including The Seven Relationships of interactions between combinations of herbs. Section III is meant as an introduction to botany for practitioners and students. Many examples taken from Chinese herbal medicine illustrate the introductory sections and keep the attention of those who might be mainly interested in the practical use of Chinese herbal drugs. In the chapter on introduction

to phytochemistry it does not seem to be advantageous to include the ubiquitous nucleic acids and a number of vitamins into alkaloids (which is chemically correct) as this might create a different impression to the inexperienced reader of what an alkaloid containing herbal drug is like. When the author discusses phytochemical methods he should have kept the concept of taking examples from Chinese herbal drug analysis to illustrate the benefit of modern separation techniques of which TLC and HPLC are the most important. The chapter which gives an introduction to pharmacokinetics is informative, however, the references for western herbalism date quite back.

Part 2 consists of 26 monographs on Chinese Umbelliferae. The herbal drugs selected for this book are based on Li Shi-zhen's great herbal *Ben Cao Gang Mu* (1596) which shows an understanding of botanical relatedness and created a botanical system about 100 years ahead similar developments of categorizing into families and genera in the west. In most cases the plant sources of the herbal drugs could be tracked to the species level. In a few cases it was not possible to unequivocally identify the plants which were meant by Li Shi-zhen and possible candidates are discussed. These monographs provide a very useful source of botanically reliable information of medically used Chinese Umbelliferae. Every-

one dealing with quality control of Chinese herbals should refer to these monographs to get a picture of possible local substitutes of a specific drug. In addition to the wood carvings taken from historical Chinese herbals accurate pictures of the respective plants would have been useful. Biomedical and phytochemical information on the drugs are taken from reviews and not from original papers, which would have increased its value as a reference regarding this information.

Part 3 collects a plethora of useful data in several appendices.

In summary, a very readable and scholarly written book on Chinese herbal medicine with a strong botanical background. It can be recommended to all those who are seriously dealing with the subject. The author should be encouraged to continue with more monograph volumes on further plant families.

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