

**Book Reviews** from *Phytochemistry* 2001; 8/2**Immunomodulatory Agents from Plants\***.

Edited by H. Wagner

365 pp, Birkhauser Verlag, Basel 1999.

Price: sfr 218,00.

ISBN: 3-7643-5848

Having had to daily imbibe an immunosuppressive drug for the last six years, I picked up this volume with pleasure and relief to find that there are plant extracts which have been shown to stimulate the immune system when required. Indeed, quite a wide range of plants have been found to contain active constituents. Of course, like most plant drugs they have to be administered either at intervals or continuously but can be applied either orally or intravenously.

As Professor Wagner, the editor, points out in the opening chapter, progress in evaluating immunomodulatory agents has been delayed because of the lack of reliable screening methods. However, successful procedures have become available during the last decade and there is now a considerable body of information about this novel class of plant drugs. This book provides a comprehensive treatment of a rapidly developing field of plant medicine.

After the excellent introductory chapter by H. Wagner and co-authors on the search for potent immunostimulants, there is a chapter by R. Bauer on *Echinacea purpurea* extracts. Its inclusion here follows on from the facts that 12% of herbal supplement sales in USA in 1997 consisted of *Echinacea* products and that 800 different preparations of *Echinacea* expressed sap are on the market in Germany. Three further chapters cover different aspects of the *Echinacea* drugs. M. J. Parnham, for example, assesses the benefit and risks of the squeezed sap for long-term oral immunostimulant therapy. There then follows a chapter by A. Vlietinck from Antwerp University on the various low molecular weight compounds with complement activity. Quite a range of plant metabolites are mentioned here, from phenylpropanoids and flavenoids to triterpenoids and alkaloids. Of course, the most active agents are particular polysaccharides and there is a wide-ranging account here of complement-activating polysaccharides by H. Yamada and H. Kiyohara.

Further chapters in this book cover fungal polysaccharides, mistletoe lectins, saponins and garlic preparations. Finally, there are two chapters describing the place of immunostimulants in Ayurveda and in traditional Chinese medicine.

In this day and age when more and more hospital patients have to cope with suppression of their immune

system following chemotherapy or transplant surgery, it is as well that efforts are made to discover compensatory prophylactic agents, as outlined here. This volume provides a valuable synopsis of recent research results on immunomodulators of plant origin and provides an excellent basis for further scientific research on these important plant drugs.

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**Constantine, G. H; Tyler's tips: The shopper's guide for herbal remedies.**

1st Edition, 137 pp, Haworth Press, New York NY 2000.

Price: \$14.95, ISBN 0-7890-0949-8 (SC);

\$39.95, ISBN 0-7890-0948-X (HC).

The use of dietary supplements has escalated in the United States in the past decade. At least 40% of the general population use dietary supplements and in 70% of instances fail to inform their primary care physician that they do so. It is predicted that the dietary supplement fiscal impact in the year 2001 will exceed \$6 billion.

Historically, most medications used by humans have been plant derived until just recently. Even now many medications are based upon plant derivatives. Two excellent examples are aspirin and morphine. Herbal remedies, a large segment of the dietary supplement market, play a special role. Many people fail to realize that herbal medications may carry adverse effects and that simply being plant derived does not insure safety or efficacy. Tyler's Tips is a handy book that should aid consumers in making logical choices when confronted with herbal remedies.

Reading the preface of this book is extremely important. It contains essential safety information about precautions, adverse reactions, potential interactions with other foods and medicines, the danger of self-diagnosis, the danger of inaccurate plant identification and advice about preparation and storage.

The remainder of the book is divided into twelve therapeutic categories and there are several herbal remedies listed in each category. Information for each remedy is briefly summarized in outline format as eight separate headings: condensed facts, conditions, plants and standards, what to look for, dosing, actions, precautions and pricing.

The current status of clinical studies (if any) is reviewed. Knowledge of bioactive compounds is provided and advice about appropriate use summarized. Safety issues are addressed and stressed. A surprising amount of information is conveyed succinctly.

[This book review is reproduced from *Phytochemistry* 52 (1999), 745]

Bear in mind that many of these remedies, have in fact, never been studied for either safety or efficacy, but, each one of these areas is addressed by Dr. Constantine, albeit briefly. For a consumer contemplating the use of an herbal remedy, this guide provides essential information that allows for rational use of herbal products.

In summary, a book that outlines the herbal remedies but also stresses important safety concerns.

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**Li, T. S. C; Medicinal plants- Culture, Utilization and Pharmacology.**

1st edition, XI + 517p. Technomic Publishing Company, Inc., Lancaster, PA 2000. Price: US\$ 134.95. ISBN 1-56676-903-5.

The first edition of this new publication by Thomas S.C. Li, known for his work on yield and quality management of medicinal herbs, raises high interest. There are some expectations about its content, and how the author can address such an ample bulk of published information about medicinal plants in a volume of only 500 pages, especially as a number of large encyclopedias already exist. Correctly, the foreword points out, that a fair number of these publications are in the foreign literature, and are difficult to obtain. Thus, a careful compilation and translation of this material would be a really important and useful task. Li's effort to produce a synthesis of the available material about widely used medicinal plants, deserves credit.

Already in his preface, Li makes clear, that he is attempting a comprehensive treatment of about four hundred species of medicinal plants, although he does not state the criteria he used for this selection. A closer look makes it clear that most of the plants have been widely known for its usage in pharmaceutical products, and most species are coming from temperate regions. The author tries to describe in six chapters major constituents and medicinal value, toxicity, essential oil content, derivatives, cultivation and major diseases of the species. Available information in the literature and on the web, and three appendices, as well as a comprehensive index, have been created in an attempt to make cross referencing easy. Chapter one (major constituents and medicinal values) and chapter three (essential oils), with strict references to the literature used, provide sound information best. Apart from many typographical errors, there are, however, some real errors. For example, *Prunus africana* and *Pygeum africanum* are listed as two different species with

different properties - although the latter is a synonym of the first.

Chapter 2 (toxicity) is much less informative it says "herbs that can be safely consumed when used appropriate", which is a phrase frequently cited, without stating what might be "appropriate", and not providing any really useful information.

In chapters four through six (value added products, cultivation/harvesting and diseases), cross references to literature sources are completely lacking, making any further reading a tedious effort, as all given citations would have to be checked. Also, the accuracy of information gets worse the further the reader gets. The omission of authors names in the scientific names of insects can be excused, but that the "Cultivation and Harvesting" chapter, being Li's main area of work - contains the highest amount of superficial or even incorrect information, e.g. with respect to origin of the species, is surprising! *Acorus calamus*, *Asarum canadensis*, *Colchicum autumnale*, *Crocus sativus*, *Lycium barbarum*, *Ocimum basilicum*, *Plantago lanceolata* and *P. major*, to name some species are definitely not tropical, but of temperate origin, whereas *Zea mays* - listed as temperate, should be placed in the tropical category. The soil descriptions given could be more detailed, to really help with cultivation. Finally, no information about possibly needed scarification or stratification techniques is given.

The appendices however are very consistent, although it would be easier for the reader to have the scientific names already included in the respective content appendix, instead of having to go from one to the other. Appendix three has not been proof read properly and contains many typing errors and spelling mistakes in scientific names, wrong authors, and missing synonymy.

The largest disappointment comes when looking through the literature citations - only English references, mostly published in easy access journals or web-databases are cited. However, practically no sign of foreign language literature - or have the titles maybe been translated into English?

Finally, a work of this scope should definitely come with a CD-ROM, as this would really give rapid access and much easier searchability.

The price of the book is still very high, particularly for students! To make the information really available, a carefully proofed second edition, coming with a searchable CD-ROM, at a lower price would be the book to go for!

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