Book Reviews

Toxicology and Clinical Pharmacology of Herbal Products. By Melanie Johns Cupp (West Virginia University). Humana Press, Totowa, NJ. 2000. xxvi + 325 pp. 15 × 22.5 cm. $79.50. ISBN 0-89603-791-6.

Despite a great deal of interest in safety and efficacy of herbs, there is a dearth of reliable information on the subject. Compounding this problem, misleading and inaccurate "information" can readily be found on the Internet, in advertisements, and in refereed medical journals. *Toxicology and Clinical Pharmacology of Herbal Products* is intended to help fill this void by giving health care providers, medical examiners, and toxicologists a source of objective and accurate information on popular herbs.

This book is divided into three parts: Legal/Regulatory Aspects of Herbal Products, Monographs, and Summary of Toxicities and Drug Interactions. The chapter on legal and regulatory issues is a concise but helpful overview of the current status of herbs in the United States and also provides some useful context for the consideration of herbs as therapeutic agents in terms of safety, efficacy, and quality.

To the extent that the Monograph section comprises the great majority of the text, this book represents a compilation of the published pharmacology and toxicology of 28 herbs. Many of the herbs covered are commonly used and available on the U.S. market, but several are not and are included here presumably because they are associated with a notable toxicological literature (e.g., calamus, sassafras, pokeweed, etc.). Each monograph employs the same general format, providing information on traditional and current use of the herb, products commercially available, pharmacologic/toxicologic effects, detailed case reports of adverse events, and regulatory status. For most of the herbs, there is a discussion of pharmacokinetics, known or theoretical drug interactions, and basic phytochemistry. The section on pharmacology/toxicology is subdivided by organ system or by therapeutic/toxicologic effect in order to focus on areas of particular knowledge or concern for each individual herb. This section of each monograph is undoubtedly the strongest aspect of the book. The authors provide a concise but thorough review of the literature. Presentation of case reports is also done in sufficient detail to give as clear a picture of an adverse event as possible from the original publication. The authors included any information on coingestants and analysis of the implicated herbal substance for botanical identity or adulterants and often called attention to the lack of such pertinent information if it was not reported.

Other sections of the monographs are much less consistent. The section on available products varies widely from the mention of "teas and extracts", to partial lists of popular brands with their package copy, to extensive discussions that attempt qualitative analysis. Despite volumes of data on phytochemical analysis, the sections on chemical analysis are nominal and usually not very useful in the context of the monograph. In contrast, the inconsistencies among herbs in the sections on pharmacokinetics and drug interactions are more likely due to the lack of systematic research and reporting in these areas than to any editorial variability. The multiplicity of authors also adds somewhat to the unevenness, but the editor has done an admirable job of compensating.

Part III, Summary of Toxicities and Drug Interactions, was disappointing in that it consists of a relatively spare table that lists the types of adverse events associated with a given herb. While there is an attempt to indicate the strength of the data that support the adverse events, the table does not include enough detail to be of any use without referring back to the text.

Toxicology and Clinical Pharmacology of Herbal Products is not the ultimate resource on herbal pharmacology, toxicology, and interactions for the health professional, but until such a volume exists, it does represent a source of valuable information for the interested scientist or health care professional.

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Botanicals: A Phytocosmetic Desk Reference. By Frank S. D'Amelio, Sr. (Bio-Botanica, Inc., Hauppauge, NY). CRC Press, Boca Raton, FL. 1999. x + 361 pp. 17.5 × 25 cm. $119.95. ISBN 0-8493-2118-2.

The author, a scientist with more than 30 years' experience in the industrial natural products field, indicates in his preface that "This book is intended to be a brief overview of phytochemistry for the cosmetic formulator. It is in no way intended to be a comprehensive book on botanicals ..." The book comprises nine chapters. Chapter 1 is a brief discussion on various phytochemical groups such as phenols, tannins, proteins, alkaloids, carbohydrates, and volatile oils. Chapter 2 provides botanical terminology and standard methods used to characterize crude drugs, including microscopy, physical constants, ash determination, and general assay procedures. Chapter 3 covers quality control methods applied to crude drugs, including plant identification, macro- and micromorphology, IR, TLC, GC, adulteration, and identification of diagnostic structures for different crude drugs. Chapter 4 covers extraction methods such as percolation, decoctions, infusions, fluid extracts, and tinctures. Chapter 5 is dedicated to a brief discourse on aromatherapy. Chapter 6 is the most extensive one and includes discussions of several dozen plants often used in cosmetic preparations, covering the correct nomenclature, habitat, plant description, general properties relative to use in cosmetics, and major chemical constituents (including structures). The chapter presents the plants in alphabetical order based on their common name and groups them according to those used in hair care, those arising from the oriental culture, and those arising from India. Of great use is the inclusion of several cross indexes, making it simple to find information based on use, common name, or Latin binomial. Chapter 7 briefly coves the major marine natural products used in cosmetics. Chapter 8 covers formulations, which

will be of special interest to cosmetic formulators, with several examples of useful formulations. Chapter 9 is a glossary of terms used throughout the book.

The book is extensively indexed, well illustrated, and reasonably free from errors; the errors noted were mainly typographical, with a few incorrect structures, and these do not detract from the practical use of the book.

Of great value to this reviewer is that the book provides many pieces of information often difficult to find in recent books, such as the composition of reagents commonly used to identify plants and plant extracts and the details of various types of microscopic analyses. The latter are becoming more and more necessary in this era of proliferation of botanical products being made available to the public.

The modest cost of the book leads me to recommend it for the new breed of "compounding" pharmacists, graduate students in pharmacognosy and related disciplines, and those involved in the cosmetic industry, as well as a reference source in libraries.

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World Economic Plants: A Standard Reference. John H. Wiersema and Blanca Leon (U.S. Department of Agriculture). CRC Press, Boca Raton, FL. 1999. xxxv + 749 pp. 21.5 × 27.5 cm. $125.00. ISBN 0-532-42154-5.

In 1977, Edward E. Terrell of the Agricultural Research Service of the United States Department of Agriculture (USDA) published *A Checklist of Names for 3,000 Vascular Plants of Economic Importance* (ARS Agricultural Handbook 505). This work provided valid scientific and English common names for many species of useful plants and was a very important contribution to the scientific literature. The present work builds on the foundation of the earlier volume and has been expanded to over 9500 species of commercial importance. Plants are listed alphabetically by genus and species, with synonyms provided. Following this is the English common name with the "preferred" name underlined, along with non-English common names. Information is given on broad use categories, here referred to as "economic impact class", and more specific categories, called "economic impact subclass". Examples of the former are animal food, with fodder as a subclass, and fuels, with charcoal as a subclass. Next, the authors provide information on geographical region and comments on distribution outside of the native range of the species where applicable. A random perusal landed this reviewer in *Passiflora*, and I noted 28 taxa described along the lines mentioned above. Many taxa were cited as ornamentals, along with food, weed, and medicinal uses. This section was very complete, in my judgment. A useful index of common names completes this volume, allowing the reader to match common names with uses. This is the kind of book that is of great value to a scientist working with economic plants, whether in agriculture, pharmacy, ethnobotany, or other disciplines that depend so heavily on voucher specimens and proper nomenclature. The authors have provided a great service to the community through the publication of this work, as well as the citation of relevant USDA databases that can be further examined. This book should be a well-thumbed reference on any plant science or natural products library's shelves.

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