

Book Reviews*

Taiwanese Native Medicinal Plants. Phytopharmacology and Therapeutic Values. By Thomas S. C. Li (Pacific Agri-Food Research Center, Summerland, British Columbia). CRC Press/Taylor & Francis, Boca Raton. 2006. xiv + 379 pp. 16 × 24 cm. \$189.95. ISBN 0-8493-9249-7.

This book consists of a very brief introduction on the geography and climate of Taiwan and the potential link between its biotechnology industry and traditional herbal remedies; a 115-page table listing hundreds of plants species, their known chemical constituents, and claimed therapeutic use or value; 683 references cited in the table; three appendices—one, an alphabetical list of compounds and their plant sources, the next, a list of English names and the corresponding taxonomic binomial, the third, a list of scientific names and corresponding common names; and a 51-page index.

The table may be a useful source of plants for screeners to target, although there are no citations in the claimed therapeutic value column. All the references are in the major constituent listings. There are occasional conflicting entries; for example, *Setcreasea purpurea* Boom., reported to improve blood circulation and to provide anti-inflammatory and antitoxic activity, has had no chemical studies reported, making the plant a seemingly attractive lead for screening and chemical analysis. However, the entry under major constituents lists the plant as toxic.

The extensive table of plants, constituents, and bioactivities, together with the rather comprehensive reference list, could prove useful to natural products researchers, but a compilation like this, so valued as a reference book just 10–20 years ago, is increasingly more appropriately placed in a searchable electronic database. This would eliminate the need for the appendices and allow the material to be updated more readily.

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Handbook of Analytical Methods for Dietary Supplements. By F. Jaksch (Chromadex, Inc.), M. Wang (Rutgers University), and M. Roman (Chromadex, Inc.). American Pharmacists Association, Washington, DC. 2005. 215 pp. 7 1/3 × 10 in. \$179.95. ISBN 1-58212-055-2.

The stated purpose of this book is to provide a sampling of analytical test methods for dietary supplements and to offer guidelines and insights on developing methods for these commodities. As such, it is an attempt to fill large gaps in the literature by cataloging and describing unpublished methods and by providing thumbnail descriptions of published methods.

The introduction and indices are quirky and full of mistakes. For instance, the first entry in the “Use Index” is Alzheimer’s, which is not a legal dietary supplement indication. The book is careless about botanical nomenclature; so, taxonomic mistakes abound. There is a short but excellent introductory chapter on Analytical Methods Validation that will be useful to researchers new to the legal and regulatory consequences of quantitative analysis and to quality control personnel who need to demonstrate to the FDA that the analytical methods they use are “scientifically valid”.

The book contains 38 short monographs that describe methods for determining supplement constituents. The monographs follow a format that attempts to place the methods into a context.

Monograph titles are followed by sections subtitled “Description”, “Mode of Action”, “Chemical Markers”, and “Methods of Analysis”.

The “Methods of Analysis” sections of many of the monographs are sketchy and resemble applications guides available from chromatography supply companies, while others are detailed and well documented. Actual method descriptions are mostly simple and easy to follow (as long as the analyst realizes that methods must be optimized after they are installed in a laboratory). The monographs do fail to provide statements of scope or applicability for the methods, a very serious oversight. For those ingredients that have a rich literature (i.e., numerous published methods), the authors take some pains to apply their own expertise in the field to recommend a method that they have found useful. These recommendations are generally based on an evaluation of the validation data provided in the literature and provide a starting point for analysts new to an ingredient. The book also provides adequate methods for ingredients for which there are no or few published methods.

Readers familiar with the phytomedicine field will find the “Mode of Action” sections presumptuous, because the authors fail to note that there are often few data to support the use of commonly measured phytochemical constituents as indicators of quality. Determination of these compounds may allow analysts to monitor batch to batch consistency, but they usually are not indicators of biological activity. The Handbook would have been better had the authors not strayed away from chemistry into the clinical literature.

In the end, *Handbook of Analytical Methods for Dietary Supplements* is a moderately useful compilation of analytical methods. Despite its flaws, the Handbook may prove a useful addition to the bookshelf of analysts new to the field who are asked to perform routine analysis of the more common dietary supplements.

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Plant Resources of South-East Asia 12(3). Medicinal and Poisonous Plants 3. Edited by R. H. M. J. Lemmens (PROSEA Publications Office, Indonesia) and N. Bunyaphatsara (Mahidol University, Bangkok, Thailand). Backhuys Publishers, Leiden, The Netherlands. 2003. 664 pp. 19 × 28 cm. €150.00. ISBN 90-5782-125-7.

This is Part 3 (of three parts on medicinal and poisonous plants) of Volume 12 of the multivolume handbook on useful plants of South-East Asia, PROSEA (Plant Resources of South-East Asia), which is targeted to educators, researchers, extension programs, and the industry. As were the two previously published parts (Part 1, 1999; Part 2, 2001), this book is the result of meticulously and extensively researched and compiled information on medicinal and poisonous plants. Unlike Parts 1 and 2, Part 3 covers mainly lesser known species, those with little or no information on phytochemistry and biological/pharmacological activity. Examples include *Butea*, *Calophyllum*, *Galbulimima belgraveana*, *Gynura*, and *Morinda* (having recent phytochemical and pharmacological studies); *Ajuga bracteosa*, *Cecropia peltata*, *Cestrum nocturnum*, *Cocculus*, *Hymenocallis*, *Kigelia africana*, *Leonotis nepetifolia*, *Ruellia tuberosa*,

*Unsigned book reviews are by the Book Review Editor.

and *Tecoma stans* (some introduced and poorly known in South-East Asia, but with medical reputation outside of the region); and *Cynoglossum*, *Drosera*, *Gentiana*, *Melissa*, and *Taxus* (unimportant genera in South-East Asia, but having important medicinal species elsewhere).

The bulk of the book (pp 31–424) comprises a compilation of 436 species in 115 genera of seed plants, mostly angiosperms. Each compilation represents a small paper or monographic treatment authored by specialist(s) in each taxonomic group, which has been well edited. The text consists of an introduction discussing the background for the selection of the species, sustainable sourcing of raw material by emphasizing the conservation of medicinal plants, followed by the compilations. Each entry of the monographic treatments consists of genus and species entries (if a genus has more than one species) or a species entry (if only one species of a genus is treated). Information for a genus is presented in the following categories in a consistent manner: citation of the original publication of the genus entry and its family name, geographic origin and distribution, uses, properties, botany, management, genetic resources, prospects, and literature cited (by numbers, referring to the 1058 numbered references, which are listed alphabetically by the last name of the author or first author, on pp 475–537). For each species entry, the following categories of information are provided: citation of the original publication of the species, the family name, synonyms, vernacular names, origin and geographic distribution, uses, properties, botany, ecology, genetic resources, prospects, and literature cited. A suite of line drawings accompanies selected species.

The monographic treatment section is followed by a substantial listing of 864 species of “Medicinal and poisonous plants with other primary use” (pp 425–474); these species are not listed in the main text. The list of literature cited section—an alphabetical listing of 1058 references—follows. Toward the end of the book, following the acknowledgments and a list of acronyms of organizations, a glossary, a list of sources of illustrations, an index of compounds, an index of scientific plant names, and an index of vernacular plant names follow. The book ends with a general index of species, genera, and families covered in Volume 12. As with previous volumes, the book is set in beautiful simplicity of a dark blue hard cover, with light blue and white titles, and the text is printed in a 10-point size, which is clearly legible. As a result of thorough, meticulous preparation and editing, I had a hard time finding any imperfections.

In conclusion, this Part 3 of the three-part monographic compilation of information on medicinal and toxic plants of South-East Asia represents a treasure trove of great value that should lead to more optimal utilization of the plant resources of this geographic region. This highly valuable book is recommended to those working in the field of medicinal plants, as either researchers, educators, or professionals, as well as to anyone with a love of plants as medicine. It should enrich any collection in both private and institutional libraries.

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The JNK Signaling Pathway. Edited by Anning Lin (University of Chicago). Landes Bioscience, Georgetown, TX. 2006. x + 97 pp. 6 × 9.5 in. \$129.00. ISBN 1-58706-120-1.

This brief book provides a useful summary of knowledge to date about the JNK signal transduction pathway. Eight concise chapters reflect on the discovery of JNK and its biological functions; regulation of JNK by small GTPases; physiological and biological roles of different JNKs; the use of JNK knockout mice to understand the pathway and its impact; the regulation of apoptosis by the JNK pathway; the relationship of oxidative stress, JNK activation, and cell death; and, finally, JNK as a therapeutic target. The last chapter lists all the reported inhibitors of JNK. Interestingly, no natural product inhibitors of this kinase have been reported, but structural elements in the diverse inhibitors reported to date suggest that there should be some potent inhibitors to be found in nature.

This well-written treatise on the JNK signaling pathway should be of interest to those investigating molecular targets as an approach to uncovering new antitumor agents. The publisher reports a transition to the Internet at eureka.com, where the chapters of this book are said to be available.

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