Pharmacological Methods in Phytotherapy Research Vol 1 Selection, Preparation and Pharmaceutical Evaluation of Plant Materials

**Medicinal Plants**

Pharmacological Methods in Phytotherapy Research Plant Drug Analysis has proven an invaluable and unique aid for all those involved with drug production and analysis, including pharmacists, chemical and pharmaceutical researchers and technicians, drug importers and exporters, governmental chemical control agencies, and health authorities. From the reviews of the German Edition:

"The reviewer would like to recommend this excellent book to all chromatographers, as he considers it highly relevant to the solution of numerous problems. Its main purpose is the demonstration of thin-layer chromatograms of the usual commercial drugs as an aid in testing for identity and purity. 165 colour plates, each showing 6 chromatograms and all of superb quality photographs."

(Journal of Chromatography)

**American Book Publishing Record**

Phytotherapy Bioassy Methods in Natural Product Research and Drug Development contains the proceedings from the Phytochemical Society of Europe's very successful symposium on this topic, held August 24-27, 1997 in Uppsala, Sweden. In this volume, leading academic and industrial scientists discuss novel methods for assaying natural products to find new structure-activity relationships. Of key importance in this process is the availability and reliability of specific bioassay methods; but chapters also discuss chemical and biological diversity and how to dereplicate natural product extracts to increase efficiency in lead discovery. Anti-tumor, HIV-inhibitory, antiprotozoal, anti-infective and immunomodulatory natural products are discussed. Various industrial projects are presented for the first time. This volume bridges the gap between academic and industrial research and scientists, and should be required reading in drug companies and faculties of pharmacy, as well as serving scientists in pharmacognosy, pharmacology, phytochemistry, natural products and drug discovery.

Trease and Evans' Pharmacognosy Laboratory protocols for pharmacological investigation of plant material Pharmacological Methods in Phytotherapy Research, Vol. 1: Selection, Preparation, and Pharmaceutical Evaluation of Plant Materials provides invaluable reference for anyone working with medicinal plants. Clear protocols detail methods for selection and extraction of plant material, as well as pharmacological investigation and presentation of results. Organized by therapeutic area, coverage includes methods for investigation of compounds relating to the gastrointestinal tract, respiratory system, nervous system, cardiovascular system, and more, with special guidance toward anti-inflammatory, analgesics, and diabetes mellitus.

Ranunculales Medicinal Plants This book addresses the highly relevant and complex subject of research on drugs from natural products, discussing the current hot topics in the field. It also provides a detailed overview of the strategies used to research and develop these drugs. Respected experts explore issues involved in the production chain and when looking for new medicinal agents, including aspects such as therapeutic potential, functional foods, ethnopharmacology, metabolomics, virtual screening and regulatory scenarios. Further, the book describes strategic methods of isolation and characterization of active principles, biological assays, biotechnology of plants, synthesis, clinical trials and the use of tools to identify active principles.

Evidence-Based Validation of Herbal Medicine Advances in Pharmaceutical Biotechnology A union list of serials commencing publication after Dec. 31, 1949.

Forthcoming Books Selection, Preparation and Pharmaceutical Evaluation of Plant Material, Volume 1 This book introduces the methodology for collection and identification of herbal materials, extraction and isolation of compounds from herbs, in vitro bioassay, in vivo animal test, toxicology, and clinical trials of herbal research. To fully understand and make the best use of herbal medicines requires the close combination of chemistry, biochemistry, biology, pharmacology, and clinical science. Although there are many books about traditional medicines research, they mostly focus on either chemical or pharmaceutical study results of certain plants. This book, however, covers the systematic study and analysis of herbal medicines in general - including chemical isolation and identification, bioassay and mechanistic study, pharmacological experiment, and quality control of the raw plant material and end products.

Research Guidelines for Evaluating the Safety and Efficacy of Herbal Medicines Natural Products as Source of Molecules with Therapeutic Potential Ethnopharmacology is one of the world’s fastest-growing scientific disciplines encompassing a diverse range of subjects. It links natural sciences research on medicinal, aromatic and toxic
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plants with socio-cultural studies and has often been associated with the development of new drugs. The Editors of Ethnopharmacology have assembled an international team of renowned contributors to provide a critical synthesis of the substantial body of new knowledge and evidence on the subject that has emerged over the past decade. Divided into three parts, the book begins with an overview of the subject including a brief history, ethnopharmacological methods, the role of intellectual property protection, key analytical approaches, the role of ethnopharmacology in primary/secondary education and links to biodiversity and ecological research. Part two looks at ethnopharmacological contributions to modern therapeutics across a range of conditions including CNS disorders, cancer, bone and joint health and parasitic diseases. The final part is devoted to regional perspectives covering all continents, providing a state-of-the-art assessment of the status of ethnopharmacological research globally. A comprehensive, critical synthesis of the latest developments in ethnopharmacology. Includes a section devoted to ethnopharmacological contributions to modern therapeutics across a range of conditions. Contributions are from leading international experts in the field. This timely book will prove invaluable for researchers and students across a range of subjects including ethnopharmacology, ethnobotany, medicinal plant research and natural products research. Ethnopharmacology- A Reader is part of the ULLA Series in Pharmaceutical Sciences www.ullahsci.org

Fundamentals of Herbal Medicine

Discovery and Innovation This text outlines the principles underlying the choice and use of pest control systems and illustrates how far these can be applied in practical situations. It shows that, ultimately, choice must be based on a compromise between theory and the demands of practice.

Indian Journal of Experimental Biology Present volume 4 of the series, Medicinal Plants: Phytochemistry, Pharmacology and Therapeutics contains 29 review/research chapters received from eminent scientists from India and abroad, the notable amongst include: Phytochemistry, Pharmacology and Therapeutics of Coptis Pharmacological Activities and Therapeutic Potential of Sarca asoca Actinocancer Activity of Indian Medicinal Plant Ba el, A egle marmelos (L.) Correa Efficacy and pre-Clinical Safety Pharmacological Evaluation of Lavangadi Vati Pharmacological and Phytochemical Screening of Callicarpa arborea Roxb. I onic Liquids: Green Solvents for the Extraction of Phytoconstituents Elderberry, Its Constituents and Use in Treating Gastrointestinal Ailments Pharmacognosy, Phytochemistry, Pharmacology and HPTLC Fingerprint Profile of Averrhoa bilimbi L.: Ficus Genera: A Promising Genera for Development of New Anti-Diabetic Drugs? The Cytotoxic Effect of Phellinus durrismus with respect to other Actinocancer Drugs Acitivity of Centella asiatica (Linn.) U. on Bacterial Flora of Human Skin Antigenotoxic Potential of Punica granatum in Breast Cancer Patients Anti-allergic and Anti-anaphylactic Activity Profile of Pothos scandens in Rodents Actinocancer Activity of M ethanol Extract of Green Tea against Cervical Cancer Therapeutic Evaluation of Moringa oleifera Seeds against Trypanosoma evansi Gastric Ulcer Protective Activity of Acorus calamus Linn. in Laboratory Animals UV- VIS and HPLC Studies on Amphiroa aniceps (Lamark) Decasine Novel Synthesis of Silver Nanoparticles of Selaginella intermedia Pharmacological and Phytochemical Screenings of Bidens sulphurea Cav. Cytotoxic Activity of Ficus racemosa against Non-small Cell Lung Carcinoma A549 Cells The studies included are likely to lead further researches in this direction and it is hoped that this publication would attract world wide audience of phytochemists, biochemists, pharmacologists, ethnopharmacologists, ethnobotanists and others engaged in the allied disciplines.

Pesticide Application While biotechnological advances, genomics and high throughput screenings or combinatorial and asymmetric syntheses are opening new opportunities in drug discovery, the industry is facing serious innovation deficit. The total number of new molecules registered per year has dropped in contrast to expected increase. Post marketing failures of blockbuster drugs have become major concerns of industries. On the other side, globally there is a major shift to sue of traditional medicine involving complementary and alternative therapies. Ethnopharmacology and traditional medicines have contributed in past significantly in the process of natural product drug discovery. There are two clear tracks where ethnopharmacology has potential to contribute in future drug research. First, as a discovery engine to provide new targets, leads, and second, use of quality assured and standardized traditional medicines. In this scenario, it is important to understand the mechanisms of drug discovery and pharmacological development with a focus on herbal drugs and neutaceutical. This book provides historical perspective, future prospects and significance of ethnopharmacology in drug research. It also provides important steps in botanical drug discovery and development including bioprospecting, quality control, standardization, pharmacetics, stability, pharmacokinetics, and bioavailability with examples from ethnopharmacology and herbal medicine. One of the important feature of this book is to give an excellent insight to Good Laboratory and Good Clinical Practices along with very useful summary steps involved in filing IND or NDA of botanical products. The book also gives Regulators’ perspective of validating claims and how ethnopharmacological or traditional medicines need different approach.

Pharmacological Methods in Phytotherapy Research Ranunculales Medicinal Plants: Biodiversity, Chemodiversity and Pharmacotherapeutics comprehensively covers this order of flowering plants, detailing the phytochemistry, chemotaxonomy, molecular biology, and phylogeny of selected medicinal plants families and genera and their relevance to drug efficacy. The book carries out an exhaustive survey of the literature in order to characterize global trends in the application of flexible technologies. The interrelationship between Chinese species, and between Chinese and non-Chinese species, is inferred through molecular phylogeny and based on nuclear and chloroplast DNA sequencing. The book discusses the conflict between chemotaxonomy and molecular phylogeny in the context of drug discovery and development. Users will find invaluable and holistic coverage on the study of Ranunculales that will make this the go-to pharmaceutical resource. Describes current perceptions of biodiversity and chemodiversity of Ranunculales. Explains how the conceptual framework of plant pharmacophylogeny benefits the sustainable exploitation of Ranunculales. Details how Ranunculales medicinal plants work from the chemical level upward Covers how the polypharmacology of Ranunculales compounds might inspire new chemical entity design and development for improved treatment outcomes

Toxicology and Clinical Pharmacology of Herbal Products This full-color reference offers practical, evidence-based guidance on using more than 120 medicinal plants, including how to formulate herbal remedies to treat common disease conditions. A body-systems based review explores herbal medicine in context, offering information on toxicology, drug interactions, quality control, and other key topics. More than 120 herbal monographs provide quick access to information on the historical use of the herb in humans and animals, supporting studies, and dosing information. Includes special dosing, pharmacokinetics, and regulatory considerations when using herbs for horses and farm animals. Expanded pharmacology and toxicology chapters provide thorough information on the chemical basis of herbal medicine. Explores the evolutionary relationship between plants and mammals, which is the basis for understanding the unique physiologic effects of herbs. Includes a body systems review of herbal remedies for
The Phytochemical and Pharmacological Aspects of Ethnomedical Plants The herbal medicine industry is growing at an astounding rate. Trade group estimates suggest that total sales exceeded $4 billion dollars in 1999. Herbal remedies are for sale not just in health food stores, but in supermarket kiosks, drug stores, and even discount warehouses. Along with the proliferation in sales has come a proliferation of information sources. Not all of the sources are equally reliable, or even intelligible. Traditional herbalists classify thistle and mugwort as “cholagogues,” substances used to make the gallbladder con tract and release bile. Medical school graduates are unlikely to have ever heard the term, or even accept the notion that most right-sided abdominal pain is a result of diminished bile flow. Heroin and cocaine may not be the only drugs to come from plants, but a practicing physician or toxicologist might be forgiven for thinking so. In 1998, 1264 papers were published about cocaine and only 17 about kava kava, an abused herb that is not without toxic side effects. Unfortunately, the majority of the papers about kava kava were published in journals not found in ordinary hospital libraries. In recognition of this fact, and the obvious need for a reliable reference work on herbal toxicology, The Toxicology and Clinical Pharmacology of Herbal Products was an early addition to our new series in Forensic Science and Medicine. It is very badly needed.

Current Serials Received This book explains both the basic science and the applications of biotechnology-derived pharmaceuticals, with special emphasis on their clinical uses. The foundations of pharmaceutical biotechnology lie mainly in the capability of plants, microorganisms, and animals to produce low and high molecular weight compounds useful as therapeutics. Pharmaceutical biotechnology has flourished since the advent of recombinant DNA technology and metabolic engineering, supported by the well-developed bioprocess technology. A large number of monoclonal antibodies and therapeutic proteins have been approved, delivering meaningful contributions to patients’ lives, and the techniques of biotechnology are also a driving force in modern drug discovery. Due to this rapid growth in the importance of biopharmaceuticals and the techniques of biotechnologies to modern medicine and the life sciences, the field of pharmaceutical biotechnology has become an increasingly important component in the education of pharmacists and pharmaceutical scientists. This book will serve as a complete one-stop source on the subject for undergraduate and graduate pharmacists, pharmaceutical science students, and pharmaceutical scientists in industry and academia.

J ournal of the A siatic Society of Bangladesh Herbal medicine is a multidisciplinary compilation of topics in herbal medicine that are designed to enlighten all who have a stake in healthcare. In light of the current trends and popularity of herbal medicine, cultural, societal differences and perception, and the relationship with modern healthcare this book presents selected topics to ensure that necessary information on herbal medicine in healthcare is provided. A part from clarifying certain important complexities and misconceptions on herbal medicine, a general overview of herbal medicine, uses of herbs in the management of diseases, plant secondary metabolites, analytical techniques, applications in stem cell research, use as leads for conventional drug compound development, and research and development of herbal medicines for healthcare are among the major discussions in this book.

 Benn’s Media Directory, 1993 This handbook describes the traditional uses by aboriginal people of more than 200 different plants from Canada’s boreal forest. It is the result of original ethnobotanical fieldwork in 29 communities across the boreal forest region of Manitoba, Saskatchewan, and Alberta. Natural resources of the boreal forest have always been essential to the dietary, medical, economic, and spiritual well-being of First Nations people, but until now much of their traditional environmental knowledge has remained unrecorded and at risk of being lost.

Plant Drug Analysis Pharmacognosy (the science of biogenic or nature-derived pharmaceuticals and poisons) has been an established basic pharmaceutical science taught in institutions of pharmacy education for over two centuries. Over the past 20 years though it has become increasingly important given the explosion of new drugs, phytomedicines (plant medicines), nutraceuticals and dietary supplements - all of which need to be fully understood, tested and regulated. From a review of the previous edition: ‘Drawing on their wealth of experience and knowledge in this field, the authors, who are without doubt among the finest minds in pharmacognosy today, provide useful and fascinating insights into the history, botany, chemistry, phytotherapy and importance of medicinal plants in some of today’s healthcare systems. This is a landmark textbook, which carefully brings together relevant data from numerous sources and provides, in an authoritative and exhaustive manner, cutting-edge information that is relevant to pharmacists, pharmacognocists, complementary practitioners, doctors and nurses alike.’ The Pharmaceutical Journal ‘This is an excellent text which provides fascinating insights into the world of pharmacognosy and the authors masterfully integrated elements of orthodox pharmacognosy and phytotherapy. Both the science student and the non-scientific person interested in phytotherapy will greatly benefit from reading this publication. It is comprehensive, easy to follow and after having read this book, one is so much more aware of the uniqueness of phytomedicines. A must read for any healthcare practitioner.’ Covers the role of medicinal plants in worldwide healthcare systems Examines the therapeutics and evidence of plant-based medicines by body system Sections on regulatory information expanded New evidence updates throughout New material covering non-medical supplements Therapeutics updated throughout Now on StudentConsult

Who’s who in Nigeria This book consists of cutting-edge materials drawn from diverse, authoritative sources, which are sequentially arranged into a multipurpose, one-stop shop, user-friendly text. It is divided into four parts as follows: part 1: historical overview of some indigenous medical systems, an outline of the basic concepts of pharmacognosy, ethnopharmacology, common analytical methods for isolating and characterising phytochemicals, and the different methods for evaluating the quality, purity, and biological and pharmacological activities of plant extracts part 2: phytochemistry and mode of action of major plant metabolites part 3: systems-based phytotherapeutics, discussion on how the dysfunction of the main systems of the human body can be treated with herbal remedies part 4: 153 monographs of some medicinal plants commonly used around the world, including 63 on African medicinal plants. This book therefore demonstrates the scrupulous intellectual nature of herbalism, depicting it as a scientific discipline in its own right.

Traditional Herbal Medicines Research Methods ‘Trease and Evans’ is an encyclopedic reference work on pharmacognosy - the study of those natural substances, principally plants, that find a use in medicine. Its popularity and longevity stem from the book’s balance between classical (crude and powdered drugs’ characterization and examination) and modern (phytochemistry and
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Aromatic and Medicinal Plants Evidence-Based Validation of Herbal Medicines brings together current thinking and practice in the complementary medicine fields and in the pharmaceutical industry in their search for new lead compounds. Dr Evans has been associated with the book for over 20 years and is a recognised authority in all parts of the world where pharmacognosy is studied. His knowledge and grasp of the subject matter is unique. Meticulously referenced and kept up to date by the editor, new contributors brought in to cover new areas expansion of information on phytochemistry - enzymatic conversions, developments in biosynthetic sequences of compounds, newly isolated constituents of plant drugs more information on quality control and standardisation herbal medicine - considerable expansion on the role of pharmacognosy in this field; legislative developments; efficacy and safety genetics - the use of DNA fingerprinting for the identification of closely related drugs; new developments in genetic engineering; possibility of GH plants drug pharmacology - expanded to include plant constituents of recent interest the use of bioassay techniques in the search for new phytochemicals - including sustainable plant resources, ecological considerations and commercial expediency

New Serial Titles Responding to the increased popularity of herbal medicines and other forms of complementary or alternative medicine in countries around the world this reference reviews and evaluates various safety, toxicity, and quality-control issues related to the use of traditional and herbal products for health maintenance and disease prevention and treatment. With over 3,550 current references, the book highlights the role of herbal medicine in national health care while providing case studies of widely used herbal remedies and their effects on human health and wellness and the need for the design and performance of methodologically sound clinical trials for the plethora of herbal medicines.

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Ethnopharmacology This volume, The Phytochemical and Pharmacological Aspects of Ethnomedicinal Plants, addresses the resurgence of interest in the rediscovery of ethnomedical plants as a source of potential ethnomedicines. In the 21st century, the pharmacological effects of medicinal plants are considered to have a promising future as drugs and medicines for the management of healthcare. Considering the extremely high cost and length of time needed for the development of new drugs, as well as the high drug attrition rate, pharmaceutical companies and researchers continue to explore new ways for drug R&D and focus more attention on the benefits of ethnomedical plants as a source of new compounds for drugs. The research provided in this timely volume examines the development and characterization of new natural drugs from medicinal plants with the aid of better screening methods. The chapters survey specific medicinal plant species and describe the characteristics of each, how the plants work, and their applications for healthcare. The authors provide research on plants from Western Ghats and adjoining areas for ethnomedical investigation because this area is very rich in phytodiversity and tribal traditions in phytotherapy and the plants surveyed have applications beyond this region. This book is a valuable medical compendium of plants and is intended as a guide and reference resource for professionals in the field. It reviews the current status of ethnomedical plants research in light of the surge in the demand for herbal medicine as a future source of new therapeutics.---

Bacterial Pathogenesis and Antibacterial Control Sets out detailed guidelines for conducting scientific research on the safety and efficacy of herbal medicines. The guidelines which reflect the consensus reached by 17 experts in pharmacology, biochemistry and traditional medicine respond to the need to assure the safety of widely-used herbal medicines while also facilitating the search for new pharmaceutical products. Specific research criteria are covered together with general principles of investigation including ethical concerns. The book has three parts. The first discusses the special properties of herbal medicines that need to be considered when designing research protocols. The second part provides detailed guidance on the objectives of research the contents of a research protocol and the methods of investigation for non-clinical studies and for Phase I to Phase IV clinical trials. The third part which forms the core of the book presents three sets of research guidelines: for quality specifications of plant materials and preparations for pharmacodynamic and general pharmacological studies of herbal medicines and for toxicity investigation of herbal medicines. Topics covered range from the information required to establish the identity and quality of plant materials or preparations through the selection of appropriate test systems for pharmacodynamic studies to detailed advice on the many different tests examinations observations and experimental procedures required in experimental animals and controls to establish the safety of herbal medicines. The guidelines are intended to facilitate the work of research scientists and clinicians while also furnishing some reference points for the governmental industrial and non-profit organizations providing financial support.

Veterinary Herbal Medicine E-Book Phytochemicals provides original research work and reviews on the sources of phytochemicals, and their roles in disease prevention, supplementation, and accumulation in fruits and vegetables. The roles of anthocyanin, flavonoids, withandros, for over one hundred and eighty-six species in separate chapters. Antioxidative and free radical scavenging activity of phytochemicals is also discussed. The medicinal properties of Opuntia, soybean, sea buckthorn, and gooseberry are presented in a number of chapters. Supplementation of plant extract with phytochemical properties in broiler meals is discussed in one chapter. The final two chapters include the impact of agricultural practices and novel processing technologies on the accumulation of phytochemicals in fruits and vegetables. This book mainly focuses on medicinal plants and the disease-preventing properties of phytochemicals, which will be a useful resource to the reader.

Aromatic and Medicinal Plants Evidence-Based Validation of Herbal Medicines brings together current thinking and practice in the areas of characterization and validation of natural products. This book reviews all aspects of evaluation and development of medicines from plant sources, including their cultivation, collection, phytochemical and phyto-pharmacological evaluation, and therapeutic potential. Emphasis is placed on describing the full range of evidence-based analytical and bio-analytical techniques used to characterize natural products, including -omic technologies, phyto-chemical analysis, hyphenated techniques, and many more. Includes state-of-the-art methods for detecting, isolating, and performing structure elucidation by degradation and
Phytotherapies

Herbal Medicine Bacterial pathogens have been becoming the main problem in hospital and community-acquired infections. It is hard to treat the strains that are resistant to antibiotics, due to the causing recurrent and untreatable infections. In recent years, the combination treatments and the novel technologies have been preferred to overcome the emergence of antibacterial resistance of pathogens. In this book, examples of pathogenesis by clinical cases, control by antibiotics and bioactive antimicrobials, control by novel technologies with the collection of up-to-date researches and reviews are presented. This book can be useful for researchers interested in antibacterials, bioactive compounds, and novel technologies.

Drug Discovery This richly illustrated reference guide treats the subject of herbal medicines in an integrated fashion with reference to pharmacognosy, pharmacology and toxicology. It will help to enable internists, phytotherapists, physicians, healthcare practitioners as well as students to understand why, when and how herbal medicines can be used in the treatment of diseases. A great deal of pathology and therapeutic information is also included. Numerous tables as well as figures clarify complex mechanisms and other information. The most important medicinal plants and drugs are illustrated with exceptional color plates.

Drug Discovery & Development

Phytochemicals Covering fundamentals and new developments in phytotherapy, this book combines pharmaceutical sciences and chemistry with clinical issues. • Helps readers better understand phytotherapy and learn the fundamentals of and how to analyze phytotherapeutic agents • Discusses phytotherapy in modern medicine, chemoprevention of disease, and alternatives to western medicines for specific diseases • Chapters summarizes the uses and applications of phytomedicines, by type like Chinese, Greco-Arab, Indian, European, and Ayurvedic • Includes international regulatory perspectives and discusses emerging regulations for various established and emerging markets

Bioassay Methods in Natural Product Research and Drug Development This book, Drug Discovery Research in Pharmacognosy provides a full picture of research in the area of pharmacognosy with the goal of drug discovery from natural products based on the traditional knowledge or practices. Several plants that have been used as food show their potential as chemopreventive agents and the claims of many medicinal plants used in traditional medicine are now supported by scientific studies. Drug Discovery Research in Pharmacognosy is a promising road map which will help us find medicine for all!

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