

Progress in Drug Research 74

Series Editor: K. D. Rainsford

A. N. M. Alamgir

Therapeutic Use of Medicinal Plants and their Extracts: Volume 2

Phytochemistry and Bioactive
Compounds

 Springer

Progress in Drug Research

Volume 74

Series editor

K. D. Rainsford, Sheffield Hallam University, Sheffield, UK

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A. N. M. Alamgir

Therapeutic Use of Medicinal Plants and their Extracts: Volume 2

Phytochemistry and Bioactive Compounds

 Springer

A. N. M. Alamgir
Department of Botany
Chittagong University
Chittagong
Bangladesh

ISSN 0071-786X

ISSN 2297-4555 (electronic)

Progress in Drug Research

ISBN 978-3-319-92386-4

ISBN 978-3-319-92387-1 (eBook)

<https://doi.org/10.1007/978-3-319-92387-1>

Library of Congress Control Number: 2018942181

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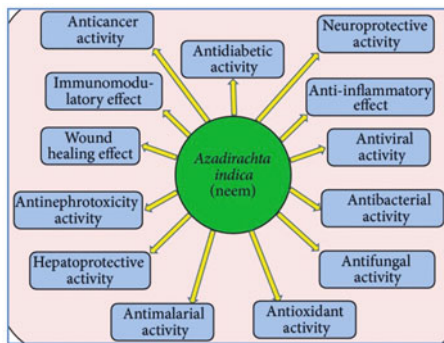
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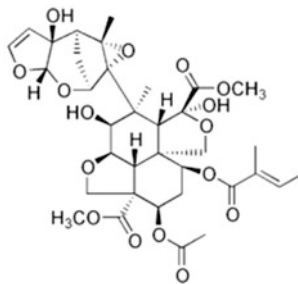
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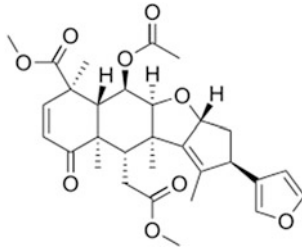
Neem: the village pharmacy (*Azadirachta indica* A. Juss.)



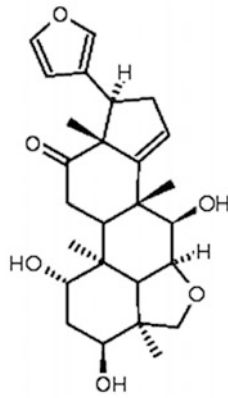
Potential pharmacological activities of Neem (*A. indica*) in diseases management



Azadirachtin (tetraterpenoid)



Nimbin (triterpenoid)



Nimbidinin (tetranortriterpene)

*Dedicated to the memory of my beloved
parents, who always inspired me to learn
from nature*

Preface

The textbook of “Phytochemistry and bioactive compounds”, Volume 2 of the series—Therapeutic use of Medicinal Plants and their Extracts, has been written to meet the needs of undergraduate and postgraduate students, who are pursuing education in the Department of Pharmacognosy and Pharmacy, Botany, and Plant Biochemistry of different universities as well as Ayurvedic and Unani colleges. Natural drugs including botanicals are gaining increasing momentum in popularity and use all over the world for their diversity and less toxic side effects. Complementary and alternative medicine botanicals are equally important in the developing and developed countries, and the uses of more and more herbs are now found as monographs in the national and international pharmacopeia. The knowledge about the nature and properties of phytochemicals and bioactive compounds present in the crude drugs as fundamental constituents and their mechanism of work is important for their optimum utilization. The present book “Phytochemistry and bioactive compounds” may fulfill the purpose of the knowledge hunters in natural resource arena, who take care about the quality, standard, and efficacy of herbal drugs. This book contains up-to-date information of the subject and may help the scientific community (students, teachers, and researchers) to keep themselves updated with the research and development work being carried out for a particular medicinal plant; and persons interested in herbal medicine bioactive compounds also may find its usefulness. It contains 9 chapters and covers many aspects of phytochemistry and molecular pharmacognosy including the source, classification, properties, molecular structure, and use of natural drugs, excipients, nutraceutical, cosmeceuticals, lead compounds, precursors, etc., of primary and secondary metabolic origin. Medicinal herbs having a tremendous biosynthetic capabilities are yet considered as a potential source for precursors and lead compounds for the development of life-saving drugs against cancer, hepatitis, asthma, HIV, etc.

The herbal biosynthetic potentialities can be explored further under controlled scientific method of in vitro cultivation of cells, tissues, and organs of medicinal herbs for the smooth production of useful secondary metabolites. The role of these botanicals in national economy and world trade has been proved to be significant.

I hope, this book will be helpful for the students, researchers, and general readers who have an interest in herbal drugs. I am grateful to the publishers for kind assistance.

Chittagong, Bangladesh

A. N. M. Alamgir

Contents

| | | |
|----------|---|----|
| 1 | Introduction | 1 |
| 1.1 | Phytochemistry: Introduction, a Borderline Discipline Between Natural Product Organic Chemistry and Plant Biochemistry | 2 |
| 1.2 | Medicinal Phytochemistry | 8 |
| 1.3 | Bioactive Compounds of Medicinal Plants | 10 |
| 1.4 | Metabolomics and Phytoconstituents | 14 |
| 1.4.1 | Metabolomics of Medicinal Plants | 15 |
| 1.4.2 | Metabolomics as a Tool for Quality Evaluation of Herbal Products | 17 |
| 1.5 | Methods (Techniques) of Phytochemical Investigation and High-Throughput Screening (HTS) for Active Plant Constituents | 18 |
| | References | 21 |
| 2 | Phytoconstituents—Active and Inert Constituents, Metabolic Pathways, Chemistry and Application of Phytoconstituents, Primary Metabolic Products, and Bioactive Compounds of Primary Metabolic Origin | 25 |
| 2.1 | Phytoconstituents | 26 |
| 2.1.1 | Active Drug Constituents | 26 |
| 2.1.2 | Inert Nondrug Constituents | 28 |
| 2.2 | Metabolic Pathways and the Origin of Primary and Secondary Metabolites Chemistry of Plant Constituents and Their Application | 29 |
| 2.2.1 | Primary Metabolic Pathways and Primary Metabolites | 30 |
| 2.2.2 | Secondary Metabolic Pathways and Secondary Metabolites | 30 |
| 2.2.3 | Plant's Defensive or Survival Secondary Metabolites | 34 |

| | | |
|----------|--|------------|
| 2.2.4 | Pollinator Attracting Secondary Metabolites | 41 |
| 2.2.5 | Factors Affecting the Metabolic Pathways of Medicinal Plants | 43 |
| 2.3 | Chemistry of Plant Constituents, Their Classification and Application | 47 |
| 2.3.1 | Primary Metabolic Products Consisting of C & H; C, H & O; N, S & P Elements (Carbohydrates, Lipids, Amino Acids, Proteins, Nucleic Acids, Organic Acids). | 48 |
| 2.4 | Sources, Chemistry, and Health Effects of the Bioactive Compounds of Primary Metabolic Origin | 155 |
| | References | 157 |
| 3 | Secondary Metabolites: Secondary Metabolic Products Consisting of C and H; C, H, and O; N, S, and P Elements; and O/N Heterocycles | 165 |
| 3.1 | Secondary Products Consisting of C, H, and O Elements | 167 |
| 3.1.1 | Terpenes and Terpenoids | 167 |
| 3.1.2 | Steroids and Sterols | 185 |
| 3.2 | Volatile Oils | 188 |
| 3.3 | Miscellaneous Isoprenoids | 191 |
| 3.3.1 | Resins | 191 |
| 3.4 | Phenols and Phenylpropanoids | 194 |
| 3.4.1 | Phenol, Polyphenol, Phenolic Acids and Phenylpropanoids | 194 |
| 3.5 | Alkaloids | 202 |
| 3.6 | Glycosides | 242 |
| 3.7 | Bitter Principles | 258 |
| 3.8 | Resins, Saponins, Cardioactive Drugs and Other Steroids | 278 |
| 3.9 | Antibiotics from Higher Plants | 285 |
| 3.10 | Tumor Inhibitors, Antiprotozoal, Antihepatotoxic, Antihyperglycemic, Antihypertensive, etc., Herbal Products | 287 |
| 3.11 | Sources, Chemistry, and Health Effects of the Bioactive Compounds of Secondary Metabolic Origin; Biotechnology of Bioactive Compounds | 305 |
| | References | 306 |
| 4 | Bioactive Compounds and Pharmaceutical Excipients Derived from Animals, Marine Organisms, Microorganisms, Minerals, Synthesized Compounds, and Pharmaceutical Drugs | 311 |
| 4.1 | Bioactive Compounds and Excipients from Animal Sources | 311 |
| 4.1.1 | Carmine | 319 |
| 4.1.2 | Gelatin | 321 |
| 4.1.3 | Glycerol | 321 |

| | | |
|--------|--|-----|
| 4.1.4 | Heparin | 322 |
| 4.1.5 | Insulin | 323 |
| 4.1.6 | Lactose | 326 |
| 4.1.7 | Lanolin | 327 |
| 4.1.8 | Magnesium Stearate | 328 |
| 4.1.9 | Premarin | 329 |
| 4.1.10 | Vaccines | 330 |
| 4.1.11 | Chitosan | 333 |
| 4.2 | Bioactive Compounds and Excipients from Marine Organisms | 334 |
| 4.2.1 | Major Marine Invertebrates and Their Bioactive Compounds | 335 |
| 4.2.2 | Major Marine Vertebrates and Their Bioactive Compounds | 343 |
| 4.2.3 | Bioactive Compounds from Seagrass | 348 |
| 4.2.4 | Bioactive Compounds from Seaweeds | 353 |
| 4.2.5 | Bioactive Compounds from Marine Bacteria | 356 |
| 4.2.6 | Bioactive Compounds from Marine Cyanobacteria | 357 |
| 4.3 | Bioactive Compounds and Pharmaceutical Excipients from Microorganisms | 364 |
| 4.3.1 | Bioactive Compounds from Prokaryotes: Bacteria, Cyanobacteri, and Actinomycetes | 365 |
| 4.3.2 | Bioactive Compounds from Protists: Microalgae (Unicellular Algae) and Protozoa | 366 |
| 4.4 | Bioactive Compounds Obtained from Minerals | 373 |
| 4.4.1 | Kaolin | 373 |
| 4.4.2 | Calomel | 374 |
| 4.4.3 | Iodine | 374 |
| 4.4.4 | Iron | 374 |
| 4.4.5 | Gold | 375 |
| 4.4.6 | Sulfur | 375 |
| 4.4.7 | Aluminum Hydroxide | 376 |
| 4.4.8 | Magnesium Hydroxide | 376 |
| 4.4.9 | Magnesium Trisilicate | 377 |
| 4.4.10 | Magnesium Sulfate | 377 |
| 4.4.11 | Mercurial Salts | 378 |
| 4.4.12 | Zinc and Zinc Oxide | 378 |
| 4.4.13 | Flourine | 379 |
| 4.4.14 | Borax | 380 |
| 4.4.15 | Selenium and Selineum Sulfide | 381 |
| 4.4.16 | Petroleum | 381 |

| | | |
|----------|---|------------|
| 4.5 | Bioactive Synthesized Compounds and Pharmaceutical Drugs | 382 |
| | References | 393 |
| 5 | Vitamins, Nutraceuticals, Food Additives, Enzymes, Anesthetic Aids, and Cosmetics | 407 |
| 5.1 | Natural Sources, Classification, Chemistry and Therapeutic Use of Vitamins | 408 |
| 5.2 | Natural Sources, Classification, Chemistry, and Therapeutic Use of Nutraceuticals, Food Additives and Excipients (e.g., Coloring, Flavoring, Emulsifying and Suspending Agents, Diluents, Bulking or Filler Agents, Disintegrants, Sweeteners, Binders, Adhesives, Solidifiers, etc.) | 469 |
| 5.3 | Natural Sources, Classification, Chemistry, and Therapeutic Use of Enzymes and Anesthetic Aids | 506 |
| 5.4 | Natural Sources, Classification, Chemistry, and Therapeutic Use of Cosmeceuticals | 517 |
| | References | 527 |
| 6 | Poisons, Hallucinogens, Teratogens, Pesticides, and Xenobiotics— Their Sources, Classification, Chemistry, and Metabolism | 535 |
| 6.1 | Poisons—Their Sources, Classification, Chemistry, Mode of Action, Symptoms of Poisoning Application and Application . . . | 536 |
| 6.2 | Hallucinogens and Teratogens—Their Sources, Classification, Chemistry, Mode of Action and Application | 558 |
| 6.3 | Pesticides—Their Sources, Classification, Chemistry Mode of Action and Application | 562 |
| 6.4 | Xenobiotics—Their Sources, Classification, Chemistry and Metabolism | 568 |
| | References | 582 |
| 7 | Biotechnology, In Vitro Production of Natural Bioactive Compounds, Herbal Preparation, and Disease Management (Treatment and Prevention) | 585 |
| 7.1 | Biotechnology and Production of Bioactive Compounds and Techniques of Molecular Biotechnology | 586 |
| | 7.1.1 Techniques of Molecular Biotechnology | 588 |
| 7.2 | Advantages of Tissue Cultures in Production of Useful Bioactive Compounds | 599 |
| 7.3 | Herbal Preparations and Disease Management (Prevention and Treatment) | 601 |
| | 7.3.1 Herbal Extracts and Management of Chronic Diseases | 602 |
| | 7.3.2 Viral Disease Management with the Use of Antiviral Bioactive Phytoconstituents | 625 |

| | | |
|----------|--|------------|
| 7.4 | Natural Immunopotentiators, Vaccine and Biotechnology in Health Care | 631 |
| 7.4.1 | Natural Immunopotentiators and Vaccine Adjuvants from Plants and Other Sources | 631 |
| 7.5 | Biotechnology of Disease Prevention | 642 |
| | References | 663 |
| 8 | Molecular Pharmacognosy—A New Borderline Discipline Between Molecular Biology and Pharmacognosy | 665 |
| 8.1 | Concept of Molecular Pharmacognosy and Its Development | 666 |
| 8.2 | Pharmacognosy at the Molecular Level | 667 |
| 8.3 | Development of Species Biology and Molecular Systematics | 668 |
| 8.4 | Molecular Identification of Traditional Medicinal Materials | 670 |
| 8.5 | Basic Methods of Systems Biology | 689 |
| 8.6 | Conservation of Medicinal Plant and Animal Biodiversity and Sustainable Utilization of Crude Drugs Resources | 695 |
| 8.7 | Molecular Breeding Marker in Herbal Drug Technology and New Variety Cultivation | 696 |
| 8.8 | Gene Regulation of Metabolic Pathway and Directional Control of the Quality of Herbal Medicines | 700 |
| 8.9 | Biological Process of the Formation of Secondary Metabolites in Medicinal Plants | 702 |
| 8.10 | Application of Systems Biology in Secondary Metabolites Study | 703 |
| 8.11 | Use of Genetic Engineering and Tissue Culture Technique for the Production of Active Ingredients | 705 |
| 8.12 | Genetic Engineering and Green Pollution-Free Medicinal Plant | 707 |
| 8.13 | Metabolomics of Medicinal Plants: Genomics, Proteomics, and Metabolomics | 707 |
| 8.14 | The Goal of Molecular Pharmacognosy | 708 |
| | References | 709 |
| 9 | Methods of Qualitative and Quantitative Analysis of Plant Constituents | 721 |
| 9.1 | Extraction of Plant Constituents | 723 |
| 9.2 | Phytochemical Screening of Secondary Metabolites | 725 |
| 9.3 | Separation of Plant Constituents | 731 |
| 9.3.1 | Separation Techniques | 731 |
| 9.4 | Isolation and Characterization of Drug Principles from Plant and Other Natural Sources | 743 |
| 9.5 | Bioassay Techniques | 745 |
| 9.6 | Qualitative and Quantitative Analysis of Secondary Metabolites | 785 |