

1. Record Nr.	UNINA9910830428403321
Titolo	Neglected tropical diseases and phytochemicals in drug discovery // edited by Chukwuebuka Egbuna, Muhammad Akram, Jonathan Chinenye Ifemeje
Pubbl/distr/stampa	Hoboken, New Jersey : , : John Wiley & Sons, Inc., , [2022] ©2022
ISBN	1-119-61715-4 1-119-61714-6 1-119-61711-1
Descrizione fisica	1 online resource (624 pages)
Disciplina	616.9883
Soggetti	Tropical medicine Phytochemicals - Therapeutic use
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Cover -- Title Page -- Copyright Page -- Contents -- List of Contributors -- Preface -- Part I Introduction to Neglected Tropical Diseases -- Chapter 1 Epidemiology of Neglected Tropical Diseases -- List of Abbreviations -- 1.1 Introduction -- 1.2 Protozoan Infections -- 1.2.1 Human African Trypanosomiasis -- 1.2.2 Chagas Disease (American Trypanosomiasis) -- 1.2.3 Leishmaniasis -- 1.2.4 Amoebiasis -- 1.3 Helminth Infections -- 1.3.1 Soil-Transmitted Helminthiasis Infections -- 1.3.2 Schistosomiasis -- 1.3.3 Echinococcosis -- 1.3.4 Lymphatic Filariasis -- 1.3.5 Onchocerciasis ("River Blindness") -- 1.3.6 Foodborne Trematodiasis -- 1.3.7 Dracunculiasis (Also Called Guinea Worm Disease) -- 1.4 Bacterial Infections -- 1.4.1 Yaws -- 1.4.2 Trachoma -- 1.4.3 Leprosy -- 1.4.4 Buruli Ulcer -- 1.5 Viral Infections -- 1.5.1 Rabies -- 1.5.2 Dengue -- 1.5.3 Chikungunya -- 1.6 Fungal and Ectoparasitic Infections -- 1.6.1 Chromoblastomycosis, Mycetoma/Eumycetoma, and Other Deep Mycoses -- 1.6.2 Scabies -- 1.6.3 Myiasis -- 1.7 Future Direction -- 1.8 Conclusion -- Acknowledgments -- References -- Chapter 2 Neglected Tropical Diseases, Phytochemicals, Protein Targets, and

Mechanisms in Drug Discovery -- List of Abbreviations -- 2.1  
Introduction -- 2.2 African Trypanosomiasis -- 2.2.1 Phytochemicals  
Against African Trypanosomiasis -- 2.3 Buruli Ulcer -- 2.3.1  
Phytochemicals Against Buruli Ulcer -- 2.4 Chagas Disease -- 2.4.1  
Phytochemicals Against Chagas Disease -- 2.5 Chikungunya -- 2.5.1  
Phytochemicals Against Chikungunya -- 2.6 Dengue -- 2.6.1  
Phytochemicals Against Dengue -- 2.7 Leishmaniasis -- 2.7.1  
Phytochemicals Against Leishmaniasis -- 2.8 Leprosy -- 2.8.1  
Indeterminate Leprosy -- 2.8.2 Phytochemicals Against Leprosy -- 2.9  
Lymphatic Filariasis -- 2.9.1 Phytochemicals Against Lymphatic  
Filariasis -- 2.10 Mycetoma -- 2.10.1 Phytochemicals Against  
Mycetoma.  
2.11 Onchocerciasis -- 2.11.1 Phytochemicals Against Onchocerciasis  
-- 2.12 Rabies -- 2.12.1 Phytochemicals Against Rabies -- 2.13  
Scabies -- 2.13.1 Phytochemicals Against Scabies -- 2.14  
Schistosomiasis -- 2.14.1 Phytochemicals Against Schistosomiasis --  
2.15 Conclusion -- References -- Chapter 3 Novel Bioactive Lead  
Compounds for Drug Discovery Against Neglected Tropical Diseases,  
Leishmaniasis, Lymphatic Filariasis, Trypanosomiasis (African Sleeping  
Sickness and Chagas Disease), and Schistosomiasis -- List of  
Abbreviations/Definitions -- 3.1 Introduction -- 3.2 Prevalence of  
Neglected Tropical Diseases -- 3.2.1 Leishmaniasis -- 3.2.2 Lymphatic  
Filariasis -- 3.2.3 Trypanosomiasis -- 3.2.3.1 African Trypanosomiasis  
(African Sleeping Sickness) -- 3.2.3.2 American Trypanosomiasis  
(Chagas Disease) -- 3.2.4 Schistosomiasis -- 3.3 Novel, Economical,  
and Efficacious Therapeutics from Medicinal Plants Against NTDs --  
3.3.1 Phytochemicals Effective Against Leishmania Parasite -- 3.3.2  
Plants and Phytochemicals Effective Against Filarial Parasite -- 3.3.3  
Plants and Phytochemicals Effective Against Trypanosomiasis -- 3.3.4  
Plants and Phytochemicals Effective Against Schistosomiasis -- 3.4  
Future Prospects -- 3.5 Conclusion -- References -- Part II Protozoan  
Infections -- Chapter 4 Herbal, Nutritional, and Traditional Remedies  
for Giardiasis: Phytochemicals as Drug Candidates -- List of  
Abbreviations -- 4.1 Introduction -- 4.1.1 Epidemiology and Symptoms  
of Giardiasis -- 4.1.2 Life Cycle of *G. duodenalis* -- 4.1.3  
Pathophysiology of Giardial Infection -- 4.1.4 Resistance to Allopathic  
Drug and Relevance of Herbal Medication -- 4.2 Plant-Based Dietary  
Supplements for Giardiasis Management -- 4.2.1 Oligosaccharide and  
Disaccharidase Supplementation -- 4.2.2 Dietary Fiber-Enriched Food  
-- 4.2.3 Agglutinin from Wheat -- 4.2.4 Vitamin and Mineral  
Supplements.  
4.2.4.1 Vitamin A Supplementation -- 4.2.4.2 Compensation of Vitamin  
B12 -- 4.2.4.3 Zinc Status Management -- 4.2.5 Fermented Vegetables  
as Probiotic Source -- 4.2.6 Phenolic Compound Enriched Plant Food --  
4.3 Traditional Treatment of Giardiasis with Herbal Ethnomedicine --  
4.3.1 Hints of Antiprotozoal Medicines from Ancient Communities --  
4.3.2 Domestic Remedies and Alternative Medicine for Giardiasis --  
4.3.3 Applied Spectrum of Ethnopharmacology in Different Continents  
-- 4.3.3.1 Asian Medicinal Extracts -- 4.3.3.2 African Traditional  
Medicines -- 4.3.3.3 South American Ethnomedicine -- 4.4  
Phytochemical Candidates for Advanced Giardicidal Drug Development  
-- 4.4.1 Terpenoids -- 4.4.2 Aromatic Ether -- 4.4.3 Alkaloids --  
4.4.4 Organo-sulfur Compounds -- 4.4.5 Lipids and Steroids -- 4.4.6  
Phenolic Compounds -- 4.5 Future Prospects -- 4.5.1 Extension of  
Medicinal Compound Screening -- 4.5.2 Methodical Studies on  
Toxicology and Drug Adversity -- 4.5.3 Correlation of Herbal Drugs  
with Molecular Targets of *Giardia* -- 4.6 Summary, Prospects, and  
Conclusion -- References -- Chapter 5 Antiprotozoal Activity of

Phytochemicals Against *Entamoeba histolytica*, the Causative Agent of Amoebiasis -- List of Abbreviations -- 5.1 Introduction -- 5.2 Life Cycle of *Entamoeba histolytica* -- 5.3 Diagnostic Techniques for Identification of *E. histolytica* -- 5.3.1 Intestinal Amoebiasis -- 5.3.1.1 Microscopy -- 5.3.1.2 Culture and Isoenzyme Analysis -- 5.3.1.3 Antigen Detection Test -- 5.3.1.4 Molecular-Based Test -- 5.3.1.5 Point-of-Care (POC) Test -- 5.4 Treatment of Amoebiasis -- 5.5 Alternative Treatment for Amoebiasis -- 5.6 Chemical Structure of Phytochemicals Effective Against *E. histolytica* -- 5.7 Possible Mechanisms of Phytochemicals as Antiamoebic -- 5.8 Future Projections -- 5.9 Conclusion -- References -- Chapter 6 Antileishmanial Potentials of Phytochemicals. 6.1 Introduction -- 6.2 Antileishmanial Activity of Propolis -- 6.2.1 Propolis from Turkey -- 6.2.2 Propolis from Brazil -- 6.2.3 Propolis from Portugal -- 6.2.4 Propolis from Cuba -- 6.2.5 Propolis from Ecuador -- 6.3 Antileishmanial Activity of Wild Mushrooms -- 6.4 Antileishmanial Activity of Medicinal Plants from Various Flora -- 6.4.1 Peruvian Flora -- 6.4.2 Ecuadorean Flora -- 6.4.3 Mexican Flora -- 6.4.4 Bolivian Flora -- 6.4.5 Iranian Flora -- 6.5 Antileishmanial Activity of Chemical Constituents -- 6.5.1 Alkaloids -- 6.5.2 Flavonoids -- 6.5.3 Terpenes -- 6.5.4 Glycoglycerolipids -- 6.5.5 Guttiferone A as a Lead Compound for Semisynthesis of Antileishmanial Molecules -- 6.6 Conclusion -- References -- Part III Helminth Infections -- Chapter 7 Prospects of Phytochemicals for the Treatment of Helminthiasis -- List of Abbreviations -- 7.1 Introduction -- 7.1.1 History -- 7.1.2 Prevalence -- 7.2 Molecular Characteristics of Soil-transmitted Helminthiasis -- 7.3 Clinical Features and Pathogenesis -- 7.4 Prevention -- 7.5 Treatment -- 7.6 Plants and Phytochemicals with Anthelmintic Activities -- 7.6.1 Modes of Action of Phytochemical Against the Soil-transmitted Helminthiasis -- 7.7 Scientific Reports of Medicinal Plants with Anthelmintic Properties -- 7.7.1 *Adhatoda vasica* -- 7.7.2 *Allium sativum* -- 7.7.3 *Baliospermum montanum* Muell -- 7.7.4 *Butea monosperma* -- 7.7.5 *Calotropis procera* -- 7.7.6 *Carica papaya* -- 7.7.7 *Ficus benghalensis* -- 7.7.8 *Mimosa pudica* -- 7.7.9 *Punica granatum* -- 7.7.10 *Verbascum thapsus* -- 7.7.11 *Zingiber officinale* -- 7.8 Future Prospects -- 7.9 Conclusion -- References -- Chapter 8 Efficacy of Phytochemicals of Medicinal Plants for the Treatment of Human Echinococcosis: Echinococcal Disease, Hydatidosis, or Hydatid Disease Drug Discovery -- List of Abbreviations -- 8.1 Introduction -- 8.2 Molecular Analysis. 8.3 Life Cycle of Echinococcosis -- 8.4 Previous Studies on the Positive Effects of Medicinal Plants and Phytochemicals -- 8.4.1 In vitro and in vivo Effect of Phytochemicals Against *Echinococcus* Infection -- 8.5 Synthetic Drugs Previously Used for Management of Echinococcosis Disease -- 8.6 Conclusion and Future Prospects -- References -- Chapter 9 Filaricidal Activity of Phytochemicals Against Lymphatic Filariasis -- List of Abbreviations -- 9.1 Introduction -- 9.2 Life Cycle of the Parasite -- 9.3 Synthetic Drugs Used for Treatment of Lymphatic Filariasis -- 9.4 Phytochemicals Used for the Treatment of Lymphatic Filariasis -- 9.4.1 *Acacia auriculiformis* -- 9.4.2 *Aegle marmelos* -- 9.4.3 *Alnus nepalensis* -- 9.4.4 *Andrographis paniculata* -- 9.4.5 *Azadirachta indica* -- 9.4.6 *Bauhinia racemosa* -- 9.4.7 *Butea monosperma* -- 9.4.8 *Caesalpinia bonducella* -- 9.4.9 *Cardiospermum halicacabum* -- 9.4.10 *Centratherum anthelminticum* -- 9.4.11 *Excoecaria agallocha* -- 9.4.12 *Ficus racemosa* -- 9.4.13 *Glycyrrhiza glabra* -- 9.4.14 *Hibiscus sabdariffa* -- 9.4.15 *Lantana camara* -- 9.4.16 *Leucas cephalotes* -- 9.4.17 *Mallotus philippensis* -- 9.4.18 *Morinda citrifolia* -- 9.4.19 *Moringa oleifera* -- 9.4.20 *Plumbago indica*

-- 9.4.21 *Pongamia pinnata* -- 9.4.22 *Psoralea corylifolia* -- 9.4.23  
*Ricinus communis* -- 9.4.24 *Saxifraga stracheyi* -- 9.4.25  
*Sphaeranthus indicus* -- 9.4.26 *Streblus asper* -- 9.4.27  
*Trachyspermum ammi* -- 9.4.28 *Vitex negundo* -- 9.4.29 *Xylocarpus*  
*granatum* -- 9.4.30 *Zingiber officinale* -- 9.5 Future Perspective -- 9.6  
Conclusion -- References -- Chapter 10 Dracunculiasis (Guinea Worm  
Disease) and Phytochemicals in Drug Discovery -- List of Abbreviations  
-- 10.1 Introduction -- 10.2 Historical Insights of Dracunculiasis --  
10.3 Prevalence, Burden, and Distribution of Disease -- 10.4 Life Cycle,  
Pathogenesis, and Clinical Manifestations of Dracunculiasis.  
10.5 Prevention and Eradication of Disease.

---