

# Preface

Mankind has fallen susceptible to an army of ailments, be it for nutritional deficiency, pathogenic or metabolic causes. The detrimental effects necessitate mitigation in order to ensure robust health and longevity. Excess reliance on chemical drugs has its risks like microbial resistance and irreparable side effects. If nutrition and immunity could be derived from the diet, it would be the best solution to the nagging issues. In fact, the discovery of functional foods and their enrichment with bioactive components has emerged as a fast-track research area. Several promising plant-derived components have been recognized in this regard. For their phytochemical abundance *viz.* dietary fibre, essential amino acids, poly unsaturated fatty acids, minerals, vitamins and sterols, they are touted to be ideal nourishing agents and safeguard against all kinds of physical threats. The term ‘superfood’ has been devised for this league of foods with plentiful phytochemicals and few anti-nutrients. More or less, we are familiar with blueberry, ginkgo, green tea, cereal bran, ginseng, spirulina, seaweeds, mushrooms, acai berry, fish oil and propolis as some of the most popular nutraceuticals.

However, apart from these familiar nutrition sources, there exist scores of other candidates with potential to be developed as health foods. For certain reasons they have hardly been exploited. Endemic distribution, low yield and post harvest loss have been identified as the key reasons for their low consumer approval. This book attempts to introduce the current status and future prospects of these obscure as well as up-and-coming food sources. However, it is a vast area and is beyond the scope of this compilation to discuss the entire emergent candidates. So, the author selects ten random resources (the author has taken the liberty of deciding the chapters as per own interest and perspective) from different living kingdom, family and geographical reasons for elaboration. A chapter has been dedicated to each candidate with unique nutritional profile, presenting crucial overviews and visions of their nutraceutical and pharmaceutical implications. The author has strived to project various aspects, namely current status, nutritional constituents, therapeutic spectrum, pitfalls encountered, innovative processing, future prospects and conclusion. The looming food insecurity, agricultural waste management, biodiversity conservation, threats of invasive plants, value-addition of food and importance of dietary intervention against metabolic diseases are the motivation behind this work. This

manuscript is believed to contribute to the significance of bioprospecting for potent functional food sources and guarantee food security. Most of these resources discussed are scantily explored or at least their application in food is in nascent phase. To be more specific, Chap. 1 is about an invasive tropical plant strawberry guava, Chap. 2 is about xerophyte opuntia fruits, Chap. 3 is about Apocyanaceae genus carissa, Chap. 4 is about weed purslane, Chap. 5 is about agro-waste grape seeds, Chap. 6 is about mint family member chia seed, Chap. 7 is about drought-resistant prosopis genus, Chap. 8 is about pseudocereal quinoa, Chap. 9 is about Asteraceae family member milk thistle and the final, Chap. 10 is about medicinal mushroom chaga. This volume is strongly believed to make people cognizant of the nutritional potential of under-utilized resources and prompting further work.

I thank Prof. Piet Lens, the Editor-in-Chief of 'Reviews in Environmental Science and Biotechnology' for suggesting me to write this book. Also, Springer deserves my gratitude for providing me this opportunity to publish this manuscript.

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Emerging Bioresources with Nutraceutical and  
Pharmaceutical Prospects

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2015, XXIII, 131 p. 18 illus., 14 illus. in color., Hardcover

ISBN: 978-3-319-12846-7