PREFACE

Globally, there is a positive trend towards health, integrative sciences, systems biology approaches in drug discovery and therapeutics that has remained one of the unique features of Ayurveda. A golden triangle comprising of Ayurveda, modern medicine and science will congregate to form a real discovery engine that can result in newer, cheaper, safer and effective therapies. Presently, the global market for medicinal plants has been estimated to be around US $62 billion and the demand is growing rapidly. The World Health Organization (2000) has estimated that 80% of the inhabitants of the world rely mainly on traditional medicines for their primary health care needs. India is represented by prosperous natural biodiversity and offers a unique opportunity for drug discovery researchers. More than 7500 plant species have been reported to be used in the Indian traditional systems including ethno medicines. The country is blessed with Eastern Himalaya and Western Ghats, which are world’s 18 hotspots of plant biodiversity where 70% of the species occur collectively and is 7th among the 16 Mega assorted countries.

During the last few decades, there has been a resurgence of interest in plants as source of medicines and of novel molecules for use in the elucidation of physiological/biochemical phenomena. Natural product research continues to provide a tremendous variety of lead structures, which are used as prototypes for the expansion of new drugs
by the pharmaceutical industry. Among the 2,50,000 plus species of plants, a small number of about 5-10% have been investigated chemically for the presence of biological active compounds. The plant kingdom still represents an enormous reservoir of new molecules to be discovered. Detailed scientific analysis of the global data has evidence on 14,317 species with ethnomedical statistics, expressing 3703 genera and 272 plant families. For 8387 (58.6%) of the traditionally used plants, no compound has been isolated and no biological work was conducted. Thus, even with this very incomplete database global ethnomedical information, there is abundant opportunity for the discovery of new medicinal agents. In this perspective, a study on “PHYTOCHEMICAL AND PHARMACOLOGICAL STUDIES ON LOCALLY AVAILABLE MEDICINAL PLANTS”, have been taken up and unified in the thesis.