

## **PREFACE**

We generally depend on less than a couple of dozens of plants for our every day life. The total number of useful plants run to a few hundreds only, an extremely meagre number as composed to a total of 6,00,000 or more plant species occurring in nature. It is highly probable that a number of plants would be useful in many different ways if they are properly investigated, domesticated and improved.

Undoubtedly, the plant kingdom still holds many species of plants containing valuable substances, which have yet to be discovered. A complete understanding of plants involves a number of disciplines. A perusal of the monographs on crude drugs in modern pharmacopoeia illustrates the necessity for a multidisciplinary approach. Pharmacognosy is closely related to Botany and plant chemistry and indeed both are originated from the earlier scientific studies on medicinal plants. The occurrence and distribution of various types of chemical substances in plants prove to be of taxonomic significance. Any understanding of the natural resources of the earth requires an appreciation and knowledge of plants. The role of taxonomy is all-pervading and fundamental, by the use of which other biological sciences can solve their problems.

The pharmaceutical industries have made massive investment on pharmacological, clinical and biochemical researches all over the world in the past decades. Efforts have been made to discover still more potent plant

drugs. India, in particular has a big scope for the development of pharmaceutical and phytochemical industry. Pharmacognosy is an important link between pharmacology and medicinal chemistry. As a result of rapid development of phytochemistry, new plant drugs are finding their way into medicine as purified phytochemicals, rather than in the form of traditional galenical preparations.

Proper and adequate knowledge of drugs was supposed to be highly essential. Charaka states that a deadly poison may become a good life saving remedy; while a good remedy if improperly used, may become a deadly poison. The World Health Organization (WHO) has recently defined traditional medicine as the one comprising therapeutic practices that have been in existence, often for hundreds of years, before the development and spread of modern medicine, and are still in use today. According to All India Ethnobotanical Survey conducted by the Ministry of Environment there are 6000 species of medicinal plants in India which can be used by traditional practitioners in tribal areas and other village communities.

In the present global scenario, natural medicines are gaining prominence, because they are economical, easily available and relatively free from side effects. The increased global demand for polyherbal formulations is reflective of positive impact of consolidated efforts aimed at reviving the science of phytopharmacy. In this context the present work entitled "Biochemical characterization and pharmacognostic analysis of

selected members of South Indian Phytolaccaceae” has been undertaken to investigate the biochemical and pharmacognostic characters of the under-utilized medicinal plants of the family Phytolaccaceae.

The thesis has been divided into six chapters. The introductory chapter describes the relevance of the work undertaken. The materials and methods adopted for conducting the present study are explained in chapter two. The results and observations of the experiments conducted are given in the third chapter. In the fourth chapter, the results of the present work are discussed with the help of previous literature. The conclusions derived from the present study are summarised in the fifth chapter. The list of reference is given in chapter six.