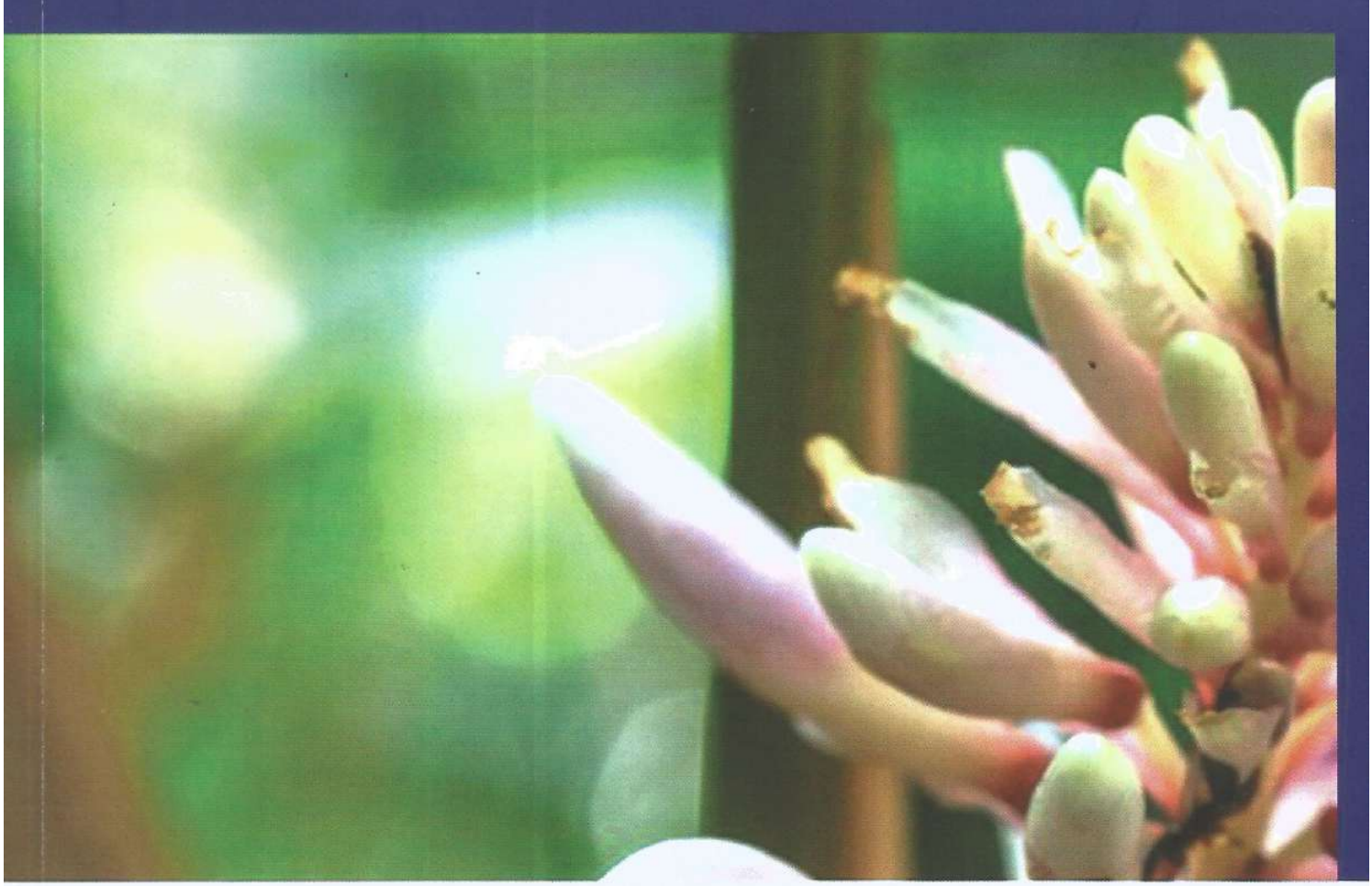

Dr Silvy Mathew

Alpinia calcarata: The goldmine of future therapeutics

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Alpinia calcarata Roscoe of the family Zingiberaceae is a multipotent, medicinal plant. The present study reveals the prime need for the conservation of this plant. In this context, the book on "Alpinia calcarata: The goldmine of future Therapeutics" covers almost all the conceptual knowledge regarding a valuble medicinal plant Alpinia calcarata. This book is documented proper methodologies which including the standardized protocols for mass propagation and for detecting the adulteration in Alpinia calcarata a way to check the bioactive potential, the antioxidant capacity, all spectroscopic studies for the isolation of the active components of Alpinia is indeed diverse ranging from Ayurvedic Drug Formulation to a medicine against cancer. In brief, Alpinia calcarata has a promising future and its medicinal activities could be decisive in the treatment of the present or future ayurvedic system of medicine. Thus, the book on "Alpinia calcarata: The goldmine of future Therapeutics" is aimed at advanced students and teachers from Natural Science discipline.

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CHAPTER ONE
INTRODUCTION

Plants containing bioactive substances have increasingly attracted the attention of researchers. They are the basic sources of modern medicine. Medicinal plants are used for discovering and screening of the phytochemical constituents leading to manufacturing of new drugs. Plants and plant based compounds are the basis of many of the modern pharmaceuticals we use today. Plant kingdom harbours a valuable pool of phytocompounds which alleviate human ailments.

It is said that one-fourth of world population i.e. 1.42 billion people are dependent on traditional medicines for the treatment of various ailments (Reddy, 2004). This practice continues despite rapid advances in allopathy system in modern times. Plants act as a reservoir of effective chemo- therapeutants and can provide valuable sources of natural drugs, natural pesticides and biofertilizers.

1. 1 Role of medicinal plants in the modern world

Medicinal plants and derived medicines are becoming increasingly popular in modern societies as natural alternatives to synthetic chemicals. The quest for eternal health has made mankind to intensively research nature itself. Mankind has a long history in the use of herbal medicines. India unquestionably occupies an eminent position in the use of herbal drugs since ancient times utilizing nearly 600 plant species in different formulations (Kala, 2005). Renewed interest in medicinal plants coupled with developments in information technology has fuelled an explosion in the voluminous data of information on medicinal plants. Medicinal uses of plants range from the administration of the roots, barks, stems, leaves and seeds to the use of extracts from plants. In the last few decades herbal medicine has recorded with an exponential growth. It has become more popular in developing and developed countries owing to its natural origin and showing lesser side effects. As an important source of medicines herbals play a key role in world health.

It is no wonder that the world today seems to consider the medicinal plants as famous mines of biosynthesis of a huge array of secondary metabolites (Dhyani and Kala, 2005). Due to geographical variations, bio-accumulation, localisation the synthesis, quantity and quality of the phytochemicals in plants may also vary. Medicinal plants are used as sources of medicine in virtually all cultures (Baquar, 1995). The basic molecular and active structures for synthetic fields are provided by rich natural sources.

Medicinal plants have been used in traditional systems of medicine and in folklore traditions for treatments against numerous human diseases for thousands of years and in many parts of the world. Hence, researchers have recently paid attention to safer phytomedicines and biologically active compounds isolated from plant species used in herbal medicines with acceptable therapeutic index for the development of novel drugs (Pavithra et al., 2010, Warrier et al., 1995).

It is true that modern allopathic health care is in great demand. However, it is also acknowledged that the side effects are greater and reduce natural immunity. Medicinal