Preface

The knowledge of Traditional Medicine and the medicinal plants, parts of plants and isolated phytoconstituents for prevention and treatment of various health ailments has been in use from time immemorial. Traditional medicine is being used as primary healthcare by about 65-80% of population in developing countries. It is also attracting attention in developed countries as an alternative to high cost modern drugs; for diseased condition with no or inadequate modern medicine and also being less toxic with fewer side effects as compared modern drugs. About 25% of drugs prescribed worldwide are derived from plants and 121 such active compounds are in use. Of the total 252 drugs in WHO essential medicine list 11% is exclusively of plant origin. In India about 80% of the rural population uses medicinal herbs or indigenous systems of medicine.

India is known for its valuable heritage of herbal medicinal knowledge. Its ethnic people and tribals living in the remote forest area still depend to a great extent on the Ethnomedicine. The *Aganosma dichotoma* plant is reported to grow in the Andhra Pradesh state and used for the treatment of various ailments by the tribal people. Even though, the diverse use of this plant by the local people of the state, their proper identity and therapeutic actions are still uncertain due to lack of scientific exploration. Constrained healing hampers the life of plenty, and consequently more efforts are being directed towards investigating cost effective and accessible therapeutic approaches.

Aganosma dichotoma K.Schum. (Apocynaceae) commonly known as Malati is a native plant of Andhra Pradesh. Despite a few leads have been taken to investigate the pharmacological activity of the plant, however no scientific report

has been explored about the traditional use of it in the treatment of ulcer, arthritis and lithiasis. Hence, the present study intends to investigate pharmacognostical standardization of *Aganosma dichotoma*, which includes macroscopical, microscopical, physicochemical and phytochemical evaluations and chemical standardization of extract through HPTLC. Further, the study also scientifically validates the traditional anti-ulcer, anti-arthritic and anti-urolithiatic claims of *Aganosma dichotoma* root.

The subject matter of the thesis has been divided into the following chapters:

- **Chapter I** deals with the introductory part which provides information about the importance of traditional herbal medicine in human health care system and selection of *Aganosma dichotoma*. It also provides the objective of the study.
- **Chapter II** deals with the detailed literature review on ulcer, inflammation, arthritis and urolithiasis and their available therapies. It also provides detailed information of the plant under investigation i.e. *Aganosma dichotoma* and briefly describes the plan of the present study.
- **Chapter III** includes the experimental methods, results and discussion implemented in the pharmacognostical standardization.
- **Chapter IV** includes the toxicity study and Pharmacological evaluation consists of three parts.
- **Part- I** included the experimental methods, results and discussion implemented in the evaluation of anti-ulcer Study.
- **Part-II** included the experimental methods, results and discussion implemented in the evaluation of anti-nociceptive, anti-inflammatory and anti-arthritic activity.

- **Part-III** included the experimental methods, results and discussion implemented in the evaluation of anti-urolithic activity.
- **Chapter V** includes conclusion section which is followed by references and list of papers published.