PREFACE

Interest in medicinal plants has increased enormously over the last two decades. In addition to the accepted study of well-established botanical drugs and some complementary systems of medicine, the untapped wealth of the plant kingdom has become a target for the search by multinational drug companies and research institutes for production new drugs and lead compounds. The World Health Organisation (WHO) estimated that 80% people of the world rely on herbal medicines for some aspect of their primary healthcare. In the last twenty years in the United States, increasing public dissatisfaction with the cost of prescription medications, combined with an interest in returning to natural remedies, has led to an increase in the use of herbal medicines. In Germany, roughly 600 to 700 plant based medicines are available and are prescribed by approximately 70% of German physicians.

Many countries are showing interests towards “Herbal systems of medicine and treatments” as they want to prove efficacy of plants and herbs that are the backbone of folk medicine.

The present investigation entitled “Studies on Eupatorium adenophorum Spreng. Leaf (Family: Asteraceae)” has been carried out and presented in this thesis. The main objectives of the investigation work carried out and presented in this thesis include the following studies on leaves of Eupatorium adenophorum Spreng, along with a thorough survey of literature on different aspects of this plant.

I. Pharmacognostical and Phytochemical studies

1. To identify and evaluate different characteristics of the leaves and its powdered form by Pharmacognostic profiles.

2. To isolate a steroidal compound from the leaves and its characterization.

3. Physico-chemical and thin layer chromatographic characterization of tinctures prepared from the leaves.
II. Pharmacological studies

These studies include the screening and evaluation of different pharmacological activity of the leaves which had been claimed in different ancient literature and also in folklore medicine and thereby to confirm these claims on the leaves of investigated plant. The following Pharmacological studies are included:

1. Toxicological investigation of methanol extract of leaves of *Eupatorium adenophorum*

2. Anti-ulcer activity of *Eupatorium adenophorum* (Family: Asteraceae) leaf Extract.

3. Analgesic activity of *Eupatorium adenophorum* (Family: Asteraceae) leaf Extract.

4. Anti-inflammatory and Anti-pyretic activity of *Eupatorium adenophorum* (Family: Asteraceae) leaf Extract.

5. Anti-tussive Evaluation of *Eupatorium adenophorum* Spreng. leaf Extract against sulphur dioxide-induced cough in mice.


III. Microbiological study

This include evaluation of antibacterial properties as claimed in Ayurvedic literature.

1. Antibacterial evaluation of *Eupatorium adenophorum* (Family:Asteraceae) leaf Extract.

A thorough study has been performed on each and every respect of the leaves of *Eupatorium adenophorum* and has been represented hereunder.