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## P R E F A C E

A medicinal plant contains the variety of biochemical substance, as secondary product. Each plant species contains specific type of substance in varying quantity.

The diseases are distortion of normal cell life and function. It can be possible to restore the normal functions by introducing a chemical substance of designed naturally into the system. Such type of an agent is a drug (of herbal origin) which is used in the prevention, diagnosis, treatment or cure of variety of diseases in animals and human beings. These drugs are collected from the wild plants growing in different types of soil and climatic conditions.

The *Tribulus Terrestris Linn* is used for medicinal purpose in different Aurvedic preparations for curing variety of diseases of animals and human beings. The plant contains saponins, which on hydrolysis yields steroidal sapogenins, diosgenins, gitogenin. Chlorogenin, ruscogenin and 25 D - spirosta-3, 5 - diene. Saponins having high haemolytic index are present in leaves and roots but absent in stems or seeds.

Three saponins in leaves and two in roots have been identified kaempferol, Kaempferol-3-glucoside, Kaempferol-3-rutinoside and a new flavonoid tribuloside ( $C_{30}H_{26}O_{13}$  m.p. 224-226°C) have also been isolated from the leaves and fruits *Chopra and Ghose, (1929) and Bhutani et. al. (1969)*.



The fruits contain alkaloids, resin, and a fixed oil (3.5 to 50% consisting mainly of unsaturated acids), tannins, reducing sugars, sterols, an essential oil, nitrates, peroxidase (stable below 50°C), diastase and traces of a glucoside *Ghatak and Giri (1963)*.

These can be used for therapeutic purposes. The different components (i.e. root, stem, leaf, flower, fruits and seeds) of a plant contain various, Chemicals in varying quantity. The use of drugs, medicines of herbal origin are ecofriendly thus safely preferred by the people. The synthetic medicines, drugs and antibiotics of chemical origin have side effects in animals and human beings.

In present work the attempts have been made to isolate and identify different biochemicals of medicinal use.

Entire thesis has been presented in XI Chapters.

CHAPTER I introduces the problem and work with phytochemical investigation of *Tribulus Terrestris Linn*. The distribution, habit and habitat of the plant with morphological and floral chapters are described in CHAPTER II. In CHAPTER III, medicinal characters and medicinal use with different preparations are given. The structure, chemical formulae of sapogenin and heterocyclic alkaloids are described in CHAPTER IV. CHAPTER V, illustrates the isolation structure and composition of steroidal saponins from fruits.



Steroidal glycoside, their structure, isolation and properties are given in CHAPTER VI, CHAPTER VII, deals with the analysis of free amino acid content from different component of the plants. Chapter VIII describes about the edaphic factors where plants are growing luxuriantly. Analysis of Ascorbic Acid and water content are described in CHAPTER IX. CHAPTER X, illustrates the mineral content analysis in components of plants. Statistical analysis of entire work is sum up in CHAPTER XI. Summary and up to-date references are cited alphabetically at the end of thesis.

