STUDIES ON ANTI FUNGAL ACTIVITY OF CERTAIN MEDICINAL PLANTS AGAINST OPPURTUNISTIC FUNGI IN MEERUT

CHAPTER – I

INTRODUCTION

Plants are known to contain several classes of Secondary metabolites with diverse biological activity. Flavonoid constitute a group of important plant secondary metabolites. After the discovery of phytolexin properties of Flavanoids and so flavonoids several investigations have been carried out to evaluate the antimicrobial potential of these compounds (Ramachandraiah and Reddy, 1991).

Subramani et al. (2004) studied antifungal activity of six flavonol glycosides and two phenolic acids isolated from Canthium sp. of Rubiaceae. They took three species of Canthium viz. Canthium diococcum, Canthium parviflorum, Canthium rheedii. They
concluded that phenolic acids are more toxic than the flavonoids. Among the various flavoroids flavonol diglycosiders are more toxic than flavamol monogly. Total inhibition of conidial germination found in 100 μg/ml concentration of *Canthium* extract.

Herbal medicine, some time referred as Herbalism or Botanical medicine, is the use of herbs for their therapeutic or medicinal value. An herb is a plant or plant part valued for its medicinal aromatic or savory qualities. Herb plants produce and contain a variety of chemical substances that act upon the body to cure fungal and bacterial diseases.

Medicinal plants are the oldest form of health care known to man kind. Herbs had been used by an people in remote past. It was an integral part of the development of modern civilization. Primitive man observed and used large number of medicinal plants available to him. Much of the medicinal plants use seems to have been developed through observations of wild animals and by trial and error method. As time went on, each tribe added the medicinal power of plants. They methodically collected information on herbs and developed well defined herbal pharmacopoeias. Indeed well into the 20th century much of the pharmacopoeia as scientific medicine was derived from the herbals of local area. Many drugs commonly used are as plant origin.
In fact about 25 per cent of the prescription drug used all over the world contains at least one active ingredient derived from medicinal plants. Some are made from plant extracts, others are synthesized to mimic a natural plant compound (Parihar and Bohra, 2004).

Plants have been a valuable source of natural products for maintaining human health. According to World Health Organization medicinal plants would be source to obtain a variety of drugs.

The medicinal value of plant drug is due to the presence of some chemical compounds in them, such as alcoloids, glycosides, essential oil, resin, gums and mucilage etc. The indigenous system of medicine namely Ayurvedic, Siddha and Unani have been in existence for several centuries. This system of medicine fulfills needs to nearly 70 per cent of our population in the village. Various Govt. and non govt. organization and individuals take up their cultivation and conservation, in view of their pharmaceutical and economic potential (Srivastava and Bohra, 2005).

The antifungal properties of essential oils obtained from higher plants have received considerable attention over a prolonged period. Drugs obtained from plants are believed to be much safer and exhibit a remarkable efficacy in the treatment of various ailments. Age of synthetic drug is increasingly falling prey to its own limitations which include controversies arising out of the side
effects and financially prohibitive manufacture of the synthetic drugs (Singh et al., 1997).

SELECTED MEDICINAL PLANTS

1. *Cheilanthes albomarginata* belonging to family Polypodiaceae of group Pteridophyta is popular as silver fern. This plant grows on foot hills and hills of northern Himalaya between 3000 feet altitude to 7000 feet altitude. (Bhargava and Bhargava, 2006). This fern is of medicinal value. Parihar and Bohra (2003) worked on antibacterial effects of *Cheilanthes albomarginata* against gastroenteritis.

*Calatropis procera* (Ait) R. Brown belonging to family Aseeplidiaceae is considered to be an important drug of Ayurveda and recognized for its varied properties like purgative, anthelmintic, leprosy, Ulcers, Leucoderma, tumors, piles, disease of spleen, liver, skin and abdomen cure and plant also known for its property like anticoagulant. Large number of workers reported phenols, sterols, cardenolides, triterpenoids from different parts of the plant.

*Dhatura metel*, Linn belonging to family Solanaceae of group angiosperm is well known medicinal plant. It grows well in the foot hills of himalaya. Seeds and capsule fruit of this plant consist of large number of medicinal values.
Ocimum basilicum, Linn. Belonging to family Lamiaceae (= labiatae) is an erect branching herb, 30-90 cm high cultivated throughout the India. Pharmacognostical studies of O. basilicum done by certain worker and it is ranked as important medicinal plant (Chopra et al., 1956).