

ISOLATION OF BIOACTIVE COMPOUNDS OF *Justicia heterocarpa* T.
AND *Blepharis ciliaris* L.

BY

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ABSTRACT

In order to explore the medicinal values of plant species like *Justicia heterocarpa* T and *Blepharis ciliaris* L. (*Acanthaceae*), a study was conducted to analyze roots, leaves and fruits of both plants species for identification of various organic compounds. Chemical analysis as well as identification of organic compounds by chromatographic techniques were carried out. Results indicate that both plants species contained proteins, sugars, lipids, vitamin C, sodium, calcium, sulphur, iron, and zinc. Whereas, the alkaloids like palmatine, berberine, vasicine and vasicinone were also found in leaves and roots of these plant species. However, it was observed that roots of both plant species contained higher concentrations of these chemical compounds as compared to fruits and leaves except sugar and vitamin C those were high in fruits. Furthermore, presence of such bioactive compounds in *Blepharis ciliaris* and *Justicia heterocarpa* indicated their importance in the form of local medicines. This study will help to increase the importance of raw materials found in these plant species and their demand in the market will be increased in the future. The extract of roots and fruits of these plant species are being used against various infections and diseases in rural population of subcontinents since many centuries.

Key words: *Justicia heterocarpa*, *Blepharis ciliaris*, Chemical analysis, medicine.

INTRODUCTION

Medicinal plants are plants whose extracts can be used directly or indirectly for the treatment of different ailments. Therefore, the use of traditional medicine and medicinal plants in most developing countries, as a basis for the maintenance of good health, has been widely observed (Edward, 2001). Scientists throughout the world are trying to explore the precious assets of medicinal plants to help the suffering humanity. Furthermore, in the world more than 30% of the pharmaceutical preparations are based on plants (Shinwari and Khan, 1998).

However, an increasing reliance on the use of medicinal plants in the industrialized societies has been traced to the extraction and development of several drugs and chemotherapeutics from these plants. The use of medicines from plants in the form of local medicine dates back to 4000-5000 B.C. While the medicinal values of these plants are due to

the presence of small doses of active compounds which produce physiological actions in the human and animal body (Zaidi, 1998). Some of the important bioactive compounds found in medicinal plants are alkaloids, glycosides, resins, gums, mucilages etc. (Saak and Forshlich, 1982). It was observed that developed countries mostly import raw materials of valuable medicinal plants from developing countries. Where they are screened, analyzed and used in drug preparations, and returned as high priced medicines to developing countries.

Blepharis ciliaris is locally known as simbuli or simbulu belonging to family *Acanthaceae*. Leaves and bracts rigid of silvery appearance, 4-rowed, patent, recurved, spiny-tipped and prickly-toothed. Flowers 2cm long consisting of a short tube and a solitary broad flat limb (Tackholm, 1974).