INTRODUCTION

World is endowed with a rich wealth of medicinal plants. Medicinal plants are the local heritage with global importance. In India herbs have always been principle form of medicine and presently they became popular throughout the developed world, as people strive to stay healthy in the face of chronic stress and pollution, and to treat illness with medicines that work to increase the body’s own defense. People in Europe, America and Australia are consulting trained herbal professionals and are using the plants as medicines. Medicinal plants also play an important role in the lives of rural people, particularly in remote parts of developing countries with few health facilities.

The variety and sheer number of plants with therapeutic properties is quite astonishing. It is estimated that around 70,000 plant species, from lichens to flowering trees, have been used at one time or another for medicinal purposes. The herbs provide the standing material for the isolation or synthesis of conventional drugs. In Ayurveda about 2,000 plants species are considered to have medicinal value, while in the Chinese Pharmacopoeia, over 5,700 traditional medicines are presented, most of them are of plant origin. About 500 herbs are still employed within conventional medicines, although whole plants are rarely used (Prajapati et al., 2003).

The rich Indian plant wealth has made a good contribution to the development of ancient Indian materia medica. One of the earliest

*In a mango fruit, rasas get transformed first it is astringent, later it is sour and finally sweet. The steady presence of prithvi-dravya is responsible for inducing all these rasas.*
treatises on Indian medicine, the *Charak Samhita* (1000 B.C.), recorded the use of 340 drugs of vegetable origin. Most of these continue to be gathered from wild plants to meet the demand of medicinal profession. Thus, despite the rich heritage of knowledge on the use of plant drugs, little attention had been paid to grow them as field crops in the country till the latter part of the nineteenth century (Anonymous, 2001).

In India, during the past one century there has been a rapid extension of the allopathic system of medical treatment. It generated commercial demand for pharmacopoeial drugs and their products. For this, the farmers have made efforts to produce many of these drug plants and also several research institutes have undertaken studies on the cultivation practices of medicinal plants, which were found suitable and remunerative for commercial cultivation.

The World Health Organization (WHO) has an inventory of medicinal plants listing over 20,000 species. As a part of the strategy to reduce burden on developing countries, WHO currently encourages, recommends and promotes the inclusion of herbal drugs in national healthcare programmes. Today the global market of herbal products is estimated to be around US $40 billion and growing at a rate of 15 – 20 % annually (Patel D., 1985).

Medicinal plants have curative properties due to the presence of various complex chemical substances of different composition, which are found as secondary plant metabolites in one or more parts of the plants. These plant metabolites, according to their composition, are grouped as alkaloids, glycosides, corticosteroids, essential oils, etc. However, it should be stated in all fairness that our knowledge of the genetic and physiological make-up of most of the medicinal plants is poor and we...

*The ayurvedic treaties of Charaka, Sushruta and Vagbhatta cover not only the subject matter but also have an aesthetic dimension.*
know still less about biosynthetic pathways leading to the formation of active constituents for which these plants are valued.

In current age, modern medicine offers an unparalleled opportunity to relieve disease symptoms and save lives. Modern surgical techniques, such as keyhole surgery and plastic surgery, and the whole range of diagnostic and life-support machinery now available can all be used to improve the chances of recovery from serious illness of injury. Since ancient time, orthodox pharmaceutical medicines were the only solution to sustain life and counter infections. Despite of the dramatic advances and advantages of conventional medicine, or biomedicine it has been established that herbal medicine has offered a great solution to cure diseases of human being. From last fifty years or so, men have relied almost entirely on plants to treat all manner of illness, from minor problems such as coughs and colds to life-threatening diseases such as tuberculosis and malaria. Today, herbal remedies are coming back into prominence because the efficacy of conventional medicines such as antibiotics, which once had near-universal effectiveness against the serious infections, is on the wane (Prajapati et al., 2003).

The rate of growth of these plants in relation to their economic prospects is not at all satisfactory. Perhaps, inefficient organization, lack of research, unplanned exploitation of natural resources, failure to grow them in large scale, inferior method of production, malpractices and adulteration are some of the reasons for our present state affairs. It is unfortunate that with almost all types of climate and soil existing in our great country, the possibilities of raising large scale plantation of medicinal plants on scientific lines has not been explored. It is a pity that interspaces of forests banks and the lands termed as barren, waste and marginal are being allowed to remain idle (Kattimani et al., 2003).

Aquatic plants are rich in their constituents at night. These should be collected during night only.
Due to varied geographical locations where these plants grow, coupled with the problem of different vernacular names, these plants are known by a great deal of adulteration or substitution which is encountered in the commercial markets. Therefore, reproducible standards of each plant are necessary for effective quality control (Patel D., 1985).

Marathwada, a region of the state of Maharashtra comprises of eight districts i.e. Aurangabad, Beed, Jalana, Parbhani, Hingoli, Nanded, Latur and Osmanabad. It is one of the important agricultural and industrial division of Maharastra State which is the third largest state in area and population in India. The climate of the region, as stated, supports the vegetation that can be conveniently divided into tropical dry deciduous forests, open scrub jungles and vast tracts of grassland (Naik et al., 1998).

Today, the exhaustive use of allopathic medicines and their side effects is well known. Many allopathic drugs are affecting resistance and immunity in human beings. In order to minimize the effect of allopathic medicines on human body, herbal medicines are gaining popularity. There is a great deal of interest in ayurvedic system of medicine for the reason that many chronic disorders which are not easily cured by allopathic medicines are being recovered by herbal treatment. Thus the demand for various commonly used medicinal plants in the production of ayurvedic medicines is ever increasing.

In view of this, the present study have been undertaken to exploit the potential of some medicinal plants of the region as a cure for various human disorders. Also the cultivation of this group of plants will help in diversifying our agriculture for new cash crop. These plants have a large

*Water is usually avyakta, whichever plant it enters, it imbibes the rasa of the plant.*
potential for all occasions. It was therefore though worthwhile to undertake such a study.

In the present investigation six species belonging to different families have been dealt with for scientific determination and evaluation as drug resources. The study is expected to adduce data of considerable importance which may prove to be relevant in the practical utilization of our natural resources nationally and internationally as well as novel source of drugs.

A list of selected taxa is as following:

4. *Plumbago Zeylanica* Linn. (Plumbaginaceae)
5. *Ruta graveolens* L. var. angustifolia Hook. (Rutaceae)

The phytochemical and pharmacognostical parameters studied which are as follows:

I) Morphology of plants.

II) Anatomy of different plant organs such as root, stem, leaf, petiole, node, as well as maceration of root and stem.

III) Histochemical tests for localization of starch, fat, protein, tannin, saponin, glycoside and alkaloids.

IV) Plant powder reactivity with different chemicals and extracts in different solvents showed specific colouration, and may prove useful to detect purity of the drug.

V) Purity tests of the samples, like moisture content, leaf constant, Acid soluble ash (ASA), Acid insoluble ash (AIA) total ash.
content (TA) and extractive values in water, ether, alcohol of the
drugs have also been carried out for different taxa studies.

VI) Chemical analysis including estimation if nitrogen (N),
Phosphorus (P), Potassium (K), Calcium (Ca), Reducing sugar,
Non-reducing sugar, Total Sugar, Crude proteins (CP), Amino
acids, Phenols and Protein have been carried out.

The present work on some of the medicinal plants of the region
will provide an initiative step towards better understanding of the
knowledge of regional medicinal plant wealth. This will also help the
cultivators that it’s of equally importance to cultivate readily available
medicinal plants along with the traditional cultivation of various crops.

*Every human being uses at least fifteen large trees during his lifetime. One should at
least plant these many trees.*