

**STUDY ON EVALUATION OF HERBAL PLANT KARUI ROYLEA CINEREA AND
ABUTILON INDIUM (LINN.) SWEET****Pathuri Siddesh Goud****Research Scholar Monda University, Delhi Hapur Road Village & Post Kastla,
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Kasmabad, Pilkhuwa, Uttar Pradesh****ABSTRACT**

The aim of this study is to Himalayas is a rich medicinal and aromatic herb repository. This is due in large part to different climatic and edaphic factors that promote plant growth and diversity. In fact, the traditional use of medicinal and aromatic plants in this mountainous region has its roots in the remote past. More than 300 medicinal products from this area are collected and traded. The demand for raw herbs is likely to rise in the future, resulting in further depletion of the plant resources, given the revived global popularity of the herbal medicinal method. The Himalayans are distinguished from their vital role in the herbal economy because of the rich biodiversity reported by several reports, and the state of Uttarakand has rightly declared itself a herbal state. The preservation and sustainable management of the state's herbal resources therefore is imperative. Biodiversity conservation and sustainable herbal richness management are only possible if conservatory measures such as protection and cultivation of selected herbal species are taken. It will also need to be registered simultaneously and made available to broader populations through traditional local herbal knowledge. Any of the above targets were taken into account in the present report. The local situation was also merged in order to achieve national goals and policies.

Keywords: - Plant, Climatic, Medicinal, Drugs.

I. INTRODUCTION

The use of plants as medicine is as old as human civilization. The earliest record of the use of medicinal plants in curing disease can be traced to Rigveda, written between 4500 and 1600 B.C. There was perceptible change from herbal medicines to synthetic drugs in the early part of this century. The tremendous growth of pharmaceutical industry considerably affected the popularity of herbal medicines, but the traditional herbal system of medicines still remains intact as cultural heritage in the different region of the world and continues to cater the needs of 80 per cent of the population of the world mainly in poor country. The herbal drugs are low priced, harmless and easily

available to common man. It is available even to those people where modern health care system is yet to develop (Farnsworth and Soejarto, 1991; Chauhan, 1996). Therefore, there have been renewed interest in the herbal medicines and as a consequence the World Health Organization (WHO) has recognised the potential of traditional herbal medicines and recommended to inclusion of herbal drugs in the National Health Care Programmer. India in this regard has unique position in the world, where a number of traditional system of medicines Ayurveda, Sidha, Unani, and Homoeopathy are practiced in health care system. All the systems predominately



depend upon medicinal plants (Sharma, et al. 2004; Raiwani, et al. 2005).

Medicinal plants constitute precious natural resource, both from the perspective of their use in traditional medicine as well as providing natural ingredients for the manufacture in modern pharmaceuticals (Lambert, et al, 1997; Balick and Mendekohn, 1992; FAO, 1997). They play a crucial role in providing new remedies for existing and new diseases. A large number of plant species are yet to be screened for active compounds. This suggests that the importance of medicinal plants is expected to grow further. It is, therefore, vital that existing stocks are protected and conserved. Medicinal plants are also important for a number of other reasons. They provide material for both the pharmaceutical industry and traditional forms of medicine, generate income and employment and have implications for the conservation of biodiversity and traditional knowledge. World wide the number of species used for medicinal purposes is estimated to be more than 50,000 which covers about 13 per cent of all flowering plants (Schipmann, et al. 2002). All India Co-ordinate Research Project on Ethnobiology (AICRPF), initiated in 1982 by the Ministry of Environment and Forests under Man and the Biosphere (MAB) programme, has documented the uses of 8000 wild plant species by ethnic communities in India. Out of this, medicinal value of over 4000 plant species are little known or hitherto unknown to the scientific community. At present there are only about 130 clinically useful prescription drugs of known chemical structure and used in modern system of medicine and solely derived from about 100 species of higher plant. Therefore

there remains a vast plant resource untapped so far for medicinal uses. In traditional herbal system India has unique position in the world as it is backed by rich medicinal plants resource. A number of traditional systems of medicine viz Ayurveda, Sidha, Unani, Homoeopathy etc, are practiced and utilized in the total health care system of the country. All of these systems are predominantly dependent on medicinal plants. However Ayurvedic system of medicine which caters a major portion of health care system, accounts nearly 84 per cent of internal herbal market. It currently comprises about 1500 single drugs and 800 compound formulations.

II. EVALUATION OF HERBAL PLANT KARUI ROYLEA CINEREA

History of medicinal plants can be traced back to the prehistoric day in India. The Indian sages have investigated drugs and their therapeutic values since long, as embodied in ancient Hindu scriptural texts-“Rigveda” (4000 BC) and “Atarvaveda” (1000 BC), the oldest documentation of herbal plants and their therapeutic uses. In the post period Charak Samhita (1000-800 BC) and Sushruta Samhita (800-700 BC) contained monumental works on herbal medicines. Nearly about 2700 drugs of plant origin are described in these treatises (Prasad, 1949). Finally Ayurvedic and other Indian systems of herbal medicine has emerged an important platform for the studies of medicinal plants in India for past several centuries and at present is a largest and most popular system of herbal drugs to treat various maladies particularly in rural India. The twentieth century showed rapid growth in acceptability of herbal



medicines. Large number of books and reviews were published documenting the herbal plants of the country and their therapeutic values. Notable among them are: Medicinal Plants of India and Pakistan (Dastur, 1951), Indian Medicinal Plants (Kiritkar and Basu, 1933), Indigenous Drug of India (Chopra, 1933) Indian Material Medica (Nadkarni, 1954). A significant contribution was made by "Council of Scientific and Industrial Research" (CSIR) which published Wealth of India (1948). This publication has become a basic reference book for all researcher working on medicinal plants, as it documents almost all known medicinal plants with some introductory notes. A remarkable contribution was also made by Chopra et al., (1956, 1969) which listed about 2300 medicinal plants used in traditional medicinal practices in various region of the country.

Garhwal region of Himalaya due to its varied altitude and climatic zonation is natural habitat of vast number of plant species about 15% of which have recorded and proven medicinal utilities. The herbal flora of Garhwal is very well documented and reviewed by several workers (Duthie, 1906; Osmaston, 1927; Rau, 1973, 1961; Raizada, 1976, Singh, et al., 1976; Naithani and Tiwari, 1982; 1983; Maheshwari, et al., 1981; Pande, et al., 1993; Gaur, 1999). Several other workers have also reviewed traditional knowledge of herbal plants and practices related to conservation and sustainable utilization of medicinal plants of Uttarakhand, (Ghildiyal, et al., 1998; Pandey and Johsi, 1998; Sharma, et al., 1998; Sharma, et al., 1999; Shah and Gupta, 1976; Shah and Jain, 1980; Sha, 1983; Pangtey and Rawat, 1987; Negi, 1994; Negi, et al., 1993,

Khera, et al., 2001; Sharma, et al., 2001; and Dhar, et al., 2002). In other important studies on ethnobotanical use of plants by tribals of Garhwal and Kumaun region have been comprehensively documented (Singh, et al., 1987; Pangtey and Samant, 1989; Pangtey, et al., 1989; Maheswari and Singh, 1984; Kalakoti and Pangtey, 1988; Paliwal and Badoni, 1990; Pant and Pande, 1995; Bhatt and Negi 2006; Joshi and Pande, 1997). Wellknown herbal plants which are used in various formulations of herbal drugs that have been enlisted in above review work are, *Acorus calamus*, *Acacia catechu*, *Amoora rohitaka*, *Azadirachta indica*, *Aleo barbadensis*, *Aegle marmelos*, *Adhatoda vasica*, *Andrographis paniculata*, *Berberis aristata*, *Boerhavia diffusa*, *Bombax malabaricum*, *Cinnamomum inners*, *Cinnamomum zeylanica*, *Cedrus deodara*, *Centella asiatica*, *Eclipta alba*, *Emblica officinalis*, *Eugenia jambolana*, *Ficus glomerata*, *Fumaria officinalis*, *Hygrophila spinosa*, *Hedychium spicatum*, *Mucuna pruriens*, *Myristica fagrans*, *Nardostachys jatamansi*, *Phyllanthus niruri*, *Picrorhiza kurroa*, *Plumbago zeylanica*, *Sapindus mukorossi*, *Saxifraga ligulata*, *Swertia chirata*, *Solanum nigrum*, *Tinospora cordifolia*, *Terminalia arjuna*, *Terminalia chebula*, *Valeriana wallichii*, *Withania somnifera* etc. It has been estimated that out of over 1600 species of medicinal plants traditionally used in India, more than 50% species comes from Himalayan region.

III. ABUTILON INDIUM (LINN.) SWEET

It is found in hotter parts of India. Found as a weed in the sub Himalayan tract and other hills up to 1.200M, the use of the root in gout, polyuria and haemorrhagic



disease, the drug exhibits immunological activity (Khareb , 2007) and *Abutilon indicum* is a perennial shrub, softly tomentose and up to 3 m in height. The leaves are evergreen, Base-cordate, stipulate, fili form, ovate, acuminate, toothed, rarely subtrilobate and 1.9- 2.5 cm long. Petiole 1.5-1.70cm long, cylindrical, yellowish in colour,stellate and hairy. The flowers are yellow in color, peduncle jointed above the middle. The petioles are 3.8-7.5 cm long; stipules 9 mm long; pedicels often 2.5-5mm long, axillary solitary, jointed very near to top and the seeds are 3-5mm,kidney shaped, reniform, tubercled or minutely stellatehairy, black or dark brown. It is used as anthelmintic, antiemetic, antiinflammatory, in urinary or uterine discharge, piles, and antidote. It is used in treatment of fever, dry cough, bronchitis, gonorrhea and leprosy was reported (Mohite et al., 2012). Properties and uses Root is demulcent, diuretic, nervine tonic, fever, and arthritis. Leaves are used in bleeding piles, diuretic, demulcent and toothache. Seeds are expectorant, aphrodisiac, laxative, gonorrhea. Bark is astringent and diuretic, decoction of leaves is used as an eye-wash and mouth wash in toothache. Flowers are local placation to boils and ulcer (Nadkarnib , 2005) and *Atibala* is a drug in Ayurvedic and Unani medicine, it is useful as a febrifuge, anthelmintic, and anti-inflammatory, in urinary and uterine discharges. Various plant parts are used in convulsions, cramps, colic, dysentery, bronchitis was reported (Joshi, 2000). Bronchial asthma is considered as a chronic inflammatory disorder of the airways. It is reported to have anti-inflammatory action and is used internally for inflammation of the bladder.

Clinical studies done on Indian asthmatic patients have proved the effectiveness of *Abutilon indicum* in bronchial asthma was studied (Archana et al., 2008). Free radical induced oxidative damage has long been thought to be the most important consequence of the aging process. Such conditions are considered to be important causative factors in the development of diseases such as diabetes, stroke, arteriosclerosis, cancer, and cardiovascular diseases. These radicals also affect the equilibrium between pro-oxidants and antioxidants in biological systems, leading to modifications in genomes, proteins, carbohydrates, lipids and lipid peroxidation, a scrutiny of literature revealed some notable pharmacological activities of the plant such as antibacterial, analgesic, antimalarial, antifertility, hepatoprotective, and wound healing was studied (Pawan et al., 2011). Flowers of *Abutilon indicum* is slightly protandrous, opening and closing times of flower are temperature and light dependent. Bagging experiments and pollen-ovule ratio reveal that it is a facultative autogamous taxon.

IV. CASSIA OCCIDENTALIS LINN

Throughout India, it grows abundantly on wastelands immediately after the rains. A diffuse offensively odorous under shrub with furrowed sub glabrous branches, leaflets 3-5 pairs, flowers yellow, in short peduncled few flowered racemes, fruits cylindrical or compressed, transversely septate glabrous pods containing 20-30 seeds ovoid, smooth and shiny dark olive green or pale brown. The plant is bitter, sweet, and thermogenic, purgative, expectorant. It is useful in cough, bronchitis, constipation, fever, epilepsy and convulsions (Arya Vaidya Salaa ,



1994) and also *Cassia occidentalis* Linn is a common weed scattered from the Himalayas to the Western Bengal, South India, Burma and Ceylon was revealed (Nadkarni, 2005). Growing throughout India up to an altitude of 1,500 m. it is used in expectorant, diuretic, leaves used internally and externally in scabies, ringworm and other skin disease (Khare, 2007). Synonyms and Common Names: *Senna occidentalis*, *Cassia caroliniana*, *C. ciliata*, *C. falcata*, *C. foetida*, *C. frutescens*, *C. geminiflora*, *C. linearis*, *C. longisiliqua*, *C. obliquifolia*, *C. planisiliqua*, *C. sophera*, *Ditremexa occidentalis* Fedegoso, *fedegosa*, *yerba hedionda*, *brusca*, *guanina*, *martinica*, *platanillo*, *manjerioba*, *peieriaba*, *retama*, *achupa poroto*, *heduibda*, *folha-de-pajé*, *kasiah*, *khiyar shember*, *pois plante*, *shih chueh ming*, *sinamekki*, *tlalhoaxin*, *wang chiang nan*, *senting*, *kachang kota*, *menting*. *Fedegoso* is a small tree that grows 5–8 m high and is found in many tropical areas of South America, including the Amazon. Indigenous to Brazil, it is also found in warmer climates and tropical areas of South. In vivo studies, *fedegoso* leaf extracts have demonstrated an anti-inflammatory, hypotensive, smooth-muscle relaxant, antispasmodic, weak uterine stimulant, vasoconstrictor, and antioxidant activities in laboratory animals. These documented actions certainly help to explain its uses in traditional medicine systems for menstrual cramps and other internal inflammatory conditions. *Fedegoso* has also been used for many types of bacterial, fungal, and parasitic infections for many years in the tropical countries where it grows. In vitro clinical research on *fedegoso* leaves over the years has reported active antibacterial,

antifungal, antiparasitic, insecticidal, and antimalarial properties. Some of its ethno-use in various regions of the world is as highlighted below.

V. CONCLUSION

The present work embodies various aspects of, “A Critical Study on importance of *Roylea cinerea* examination towards herbal medicines plants” Karui (*Roylea cinerea*). The *Roylea cinerea* is one of the medicinal plants use in ethnic medical system for the treatment of diabetes, blood purifier, various skin egeries, febrifuge etc. In traditional Indian medicinal system ‘Ayurveda’ the plant is constituent of various herbal formulations such as treating mental ailments, liver tonic, antiseptic. *Roylea cinerea* widely grows in middle Himalaya at altitude 1500 msl, as a wild shrub in a relatively arid soil conditions. Seeing its medicinal importance and the impetus of Uttarakhand Government to make the state herbal based economic, it would be prudent to initiate the cultivation of herbal plant around its natural habitat and the state may be divided into several zones, undertaking the cultivation of medicinal plants of respective areas, *Roylea cinerea* naturally grow around Srinagar valley, therefore, this plant could be recommended for the herbal cultivation in the area. On the basis of the phytosociological studies, the important plants which have high association with *Roylea cinerea* were found *Urtica dioica*, *Lantana indica*, *Murraya koengii*. Therefore, these plants can be treated as indicator of the habitat of *Roylea cinerea* the other shrubs which are also found in the same habitat are *Canabis sitiva*, *Adhatoda vasica*, *Parthenium hysterophorus*, *Carissa congesta*, etc. The



tree species found are *Toona cileata*, *Grewia optiva*, *Mangifera indica*, *Melia azedarach*, *Pisidium guajava*, *Ficus palmata*, *Mallotus philippensis*, *Celtis australis* etc. The shrub important herb species associated with *Roylea cinerea* were *Oxalis corniculata*, *O. debilis*, *Stellaria media*, *Poa annua*, *Arabidopsis thaliana* etc.

When the cultivation study were undertaken under field and laboratory condition it was evident that maximum stem cutting rooting occur in forest soil, followed by farm yard compost soil. In other soil (viz. sandy soil, red soil, and garden soil) there was relatively poor rooting. On the contrary germination of seed was highest in the sandy soil and forest soil. Therefore, forest soil is the best medium for the nursery raising of *Roylea cinerea* by stem cutting, while for raising the sapling of this plant by seeds, sandy soil is the most efficient medium. Under experimental laboratory condition no seed germination was observed in control (distilled water). However, hormonal solution brought about 25% seed germination in Petri dishes in laboratory. Information on phytochemical composition of this plant was gathered from the scrutiny of phytochemical journals and reviews.

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