

Chemical Analysis of Leaf Extracts of *Calotropis procera*.

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Abstract- Since ancient time plants have been used as source of therapeutic agents, plants play a significant role in the indigenous system of medicines to combat diseases. Plants are richest source of bioactive organic chemicals on earth. Phytochemical properties of leaf of *Calotropis procera* obtained from methanol and petroleum ether extracts were investigated. The results suggest that the Phytochemical properties of the leaf for using various ailments.

Index Terms- *Calotropis procera*, Phytochemical

I. INTRODUCTION

“Phyto” is the greekword for plants. There are many “families” of phytochemicals which helps the human body in variety of way. Phytochemical are non-nutritive plant chemicals that have protective or disease preventive properties. Plant produce these chemicals to protect themself but recent research demonstrate that many phytochemicals can protect humans against disease (Srivastava et al, 2010).

Calotropis procera commonly known as Aak is used in many Ayurvedic formulations like Arkelavana. The medicinal potential of *Calotropis procera* has been known to traditional system of medicine. The use of the plants, plant extracts and pure compounds isolated from natural sources has always provided a foundation for modern pharmaceutical compounds (Murti et al, 2012). Plants have been a rich source of medicines because they produce wide array of bioactive molecules, most of which probably evolved as a chemical defence against predation or infection (Ramaprabha et al, 2012). It is estimated that only one percent of 2,65,000 flowering plants on earth have been studied exhaustively for their chemical composition and potential against important medicinal value (Cox et al, 1994). Here an attempt has been made to investigate the chemical present in the leaf for curing various diseases.

II. MATERIAL AND METHODS:

1. Plant material:

Calotropis procera leaf collected in January 2013 from Rewa. The plant material was identified at the field using standard keys and descriptions.

2. Method of extraction:

Solvent – Petroleum ether, Methanol

Method – Maceration

Procedure:

Leaf powder was weighed 500 gm and kept in a container in contact with pet ether for seven days, with vigorous shaking at regular interval. Material was filtered a first with muslin cloth and then with filter paper. Filtrate was collected and dried in water bath till no further reduction in mass of extract was observed. Dried extract was weighed and packed in air tight container and the marc was air dried then kept in a container in contact with methanol for seven days, with vigorous shaking at regular interval. Material was filtered a first with muslin cloth and then with filter paper. Filtrate was collected and dried in water bath till no further reduction in mass of extract was observed. Dried extract was weighed and packed in air tight container.

3. Phytochemical Screening-

Phytochemical Screening was carried out using standard methods to detect the bioactive compounds like alkaloids, tannins, phenols, steroids, flavonoids, saponins (Trease et al, 1989).

III. RESULT AND DISCUSSION

TABLE 1: Phytochemical Screening of *Calotropis procera* Leaf

Phyto chemicals	Petroleum ether extract	Methanol extract
Alkaloids	-	-
Carbohydrates	-	+
Reducing Sugar's	-	-
flavonoids	-	+
Glycoside	+	+
Tannin and Phenolic	-	+
saponin	-	-
Protein and amino acid	+	+
Fats and oils	-	-
Triterpenoids and steroids	+	+

(+) indicates presence

(-) indicate absence

The result of Phytochemical screening of Petroleum ether and methanol leaf extracts of *Calotropis procera* revealed the presence of Glycosides, Protein, Triterpenoids, Steroids, Flavonoids (Table1). The presence of these components in this species is an indication that it may have some medicinal potential. The parts of the plant used in Ayurvedic medicine are leaves, the roots, root bark and the flowers. The powdered leaves are used for the fast healing of wounds, as a purgative and to treat indigestion. They are used to treat skin disorders and liver problems. The dried leaves are used to promote sexual health including Penile dysfunction and are reputed to be an aphrodisiac. The leaves of *Calotropis procera* are used by various tribes of Central India as a curative agent for jaundice (Sharma et al, 2011). The leaves are used to treat joint pain and reduce swelling. It is also used as a homeopathic medicine (Meena et al, 2011). It is also used by traditional medicine practitioners in Gwari communities for the treatment of ringworms (Kuta, 2008). Tannins have been reported to have antibacterial potential due to their basic character that allows them to react with proteins to form stable water soluble compounds thereby killing bacteria by directly damaging its cell membrane (Mainasara et al, 2012). Murti et al (2010) analysed pharmacognostic standardization of leaves of *Calotropis procera*. Varahalarao et al (2010) examined bioassays for antimicrobial activities using stem, leaves and flowers of *Calotropis procera*.

This research has been proved as a path to many scientists who may implement the result of the present work in developing drugs from *Calotropis procera* against human pathogenic microorganisms.

IV. CONCLUSION

Empirical knowledge about medicinal plants plays a vital role in primary health care and has great potential for the discovery of new herbal drugs. *Calotropis procera* leaf extract made in methanol and petroleum ether contains different secondary metabolites with biological activity that can be of therapeutic index.

Table 1 showed preliminary Phytochemical screening of *Calotropis procera*. It is interesting to note that the action of the

extracts of *Calotropis procera* is non-toxic. The obtained results provide a support for the use of this plant in traditional medicine.

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