



Preliminary Phytochemical Analysis of *Calotropis gigantea* (Linn.) R. Br. From Nagpur District Maharashtra, India

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Abstract:

Calotropis gigantea (Linn.) R. Br. belonging to family Asclepiadaceae which includes latex containing plants. The plant *Calotropis gigantea* is known for various medicinal properties in traditional medicinal system and it is used to cure a variety of disease. The plant was investigated for phytochemical analysis. The results suggest that the phytochemical analysis would be useful in the management of various diseases.

Keywords: *Calotropis gigantea* (Linn.) R. Br., latex, phytochemical analysis

Introduction:

The plants possess therapeutic properties or pharmacological effect are generally designated as "Medicinal Plants". It has now been established that the plants which naturally synthesize secondary metabolites, like alkaloids, glycosides, tannins, volatile oils and contain minerals and vitamins, possess medicinal properties. Plants contain useful phytoconstituents, including vitamins, minerals, proteins, carbohydrates, essential oils, tannins, alkaloids and flavonoids. Each part of the plant contains distinct properties and is used for different purposes (Rahman et al, 2013).

The Asclepiadaceae is a large Angiospermic family which includes 175-180 genera and 2200 species distributed in tropical and subtropical region of the world. In India 23 genera and 41 species are reported. *Calotropis* is a small genus which includes about 6 species of shrubs or small trees. In India reported only two species namely *Calotropis procera* and *Calotropis gigantea*. Both the species are closely resemble each other in structure and have similar uses (Kirtikar et al, 1994). *Calotropis gigantea* is a common wasteland weed and commonly known as giant milk weed. The plant is a glabrous, laticiferous shrub or small tree, about 3-4m tall. Its stem is erect, up to 20 cm in diameter. The plant has elliptical to oblong-ovate leaf. It has clusters of waxy flowers that are either white or lavender in colour. The plant has oval, light green leaves and milky stem (Carol et al, 2012).

Taxonomy:

Kingdom - Plantae

Order - Gentianales

Family - Asclepiadaceae

Genus - *Calotropis*

Species - *gigantea*





Material and Methods:-

Plant Material

The plant *Calotropis gigantea* is collected from Umred region of Nagpur District Maharashtra. The plant material was identified at the field using standard keys and descriptions. The voucher specimen was deposited in the Department of Botany, Hislop College, Nagpur

Collection of Latex:

Latex was collected early in the morning in a clean glass tube. Latex was homogenized in a homogenizer under chilled condition, filter through muslin cloth and filtrate was used for phytochemical analysis.

Phytochemical Analysis:

Phytochemical analysis was carried out using standard protocols (Kokate 1994, Harbone 1973 and Marinova et al, 2005) to detect the bioactive compounds like alkaloids, Cynogenic glycosides, phenolic compounds, flavonoids, terpenoids, tannins saponins.

Table. 1- Preliminary Phytochemical Analysis of Latex *Calotropis gigantea*

Botanical Name	Vernacular Name and part used	Alkaloids	Cynogenic Glycosides	Phenolics	Flavonoids	Terpenoids	Tannins	Saponins
<i>Calotropis gigantea</i> (Linn.) R.Br.	Rui, LF.	+	+	+	-	-	+	-

+ = Present - = Absent Part used: Leaf (LF)

Result and Discussion:

Leafy latex of *Calotropis gigantea* positive test for alkaloid, cynogenic glycosides, phenolics and tannins and negative observations against flavonoids, terpenoids and saponins. The phytochemical analysis presented in this study is useful to researchers and industry regarding pharmaceuticals.

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