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PHYTOCHEMICAL ANALYSIS OF *SOLANUM XANTHOCARPUM* EXTRACT.



Prakash Solanki

INTRODUCTION

Solanum xanthocarpum belonging to family Solanaceae commonly known as Indian night shade or yellow berried night shade is a perennial herbaceous weed. Different parts of this plant have been used traditionally for curing various ailments such as fever, cough, asthma and diabetes in Indian traditional medicines.¹

Solanum xanthocarpum is a well known medicinal plant in traditional medicinal system and recent scientific studies have emphasized the possible use of *Solanum xanthocarpum* in modern medicine. Leaf paste prepared in water is applied topically on forehead to get relief from headache. It has got astringent, anthelmintic, aphrodisiac, laxative, diuretic, stomachic, cardiogenic and refrigerant activities.² Ayurveda specially mentions that the plant is useful in facilitating conception. Formulations containing *Solanum xanthocarpum* are being promoted for use in conditions like irregular menses, menopause, breast cancer and infertility.³

Abstract

Solanum xanthocarpum is an important medicinal herb in Ayurvedic medicine. Various studies indicated that *Solanum xanthocarpum* antiasthmatic, hepatoprotective, antibacterial and insect repellent properties. General phytochemical analysis of organic solvent of *Solanum xanthocarpum* revealed the presence of alkaloids, fatty acid, steroids, terpenes, saponins and tannins etc. *Solanum xanthocarpum* is widely recognized in Ayurvedic system of Indian medicine for treatment of respiratory problems.

Keywords : *Solanum xanthocarpum*, extract, traditional, medicinal and phytochemical etc.

Short Profile

Prakash Solanki is Assistant Professor Of Chemistry at Government Holkar Science college, Indore (India). He has completed M.Sc. and Ph.D. He has professional experience 10 years and research experience 9 years.

The importance of medicinal plants and traditional health systems in solving the health care problems of the world is gaining increasing attention. Because of this resurgence of interest, the research on plants of medicinal importance is growing phenomenally at the international level, often to the detriment of natural habitats and mother population in the countries of origin. Most of the developing countries have adopted traditional medical

practice as an integral part of their culture. Historically all medicinal preparations were derived from plants whether in the simple form of raw plant materials or in the refined form of crude extracts and mixtures etc.⁴

The medicinal plants have been used to cure disease since antiquity. Plants still constitute one of the major sources of drug in modern as well as traditional medicine throughout the world.⁵ The indigenous uses of plants also indicate antispermatogenic, antidiabetic, antiasthmatic and anticancer.^{6,7,8,9}

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MATERIAL AND METHODS

The fresh whole plants of *Solanum xanthocarpum* were collected from May 2014 the rural area in District Indore Madhya Pradesh (India). The plant was identified and authenticated by Dr. K. Pawar, Professor of Botany, Govt. Holkar Science College, Indore Madhya Pradesh (India).



Fig: Images of *Solanum xanthocarpum*

Preparation of extract

The collected plants parts of the medicinal plant were cleaned and dried under shade. The dried plant materials were then ground well to fine powder. Powdered plant materials were successively extracted with ethyl alcohol and acetone using soxhlet extractor. The extraction was continued for 24 hours. The ethyl alcohol and acetone extracts were then filtered and kept in oven at 200 c 24 hours to evaporate from it. Greenish brown and greenish black were obtained.

Primary Phytochemicals Analysis of ethyl alcohol extract.

Table - 1

Phytochemicals	Stem	Leaf
Alkaloids	+	+
Flavonoids	+	+
Terpenoids	+	+
Steroids	+	+
Saponin	+	+
Proteins	+	+
Carbohydrate	—	—
Anthraquinon	—	—

Primary Phytochemicals Analysis of acetone extract.

Table - 2

Phytochemicals	Stem	Leaf
Alkaloids	+	+
Flavonoids	+	+
Terpenoids	—	—
Steroids	+	+
Saponin	+	+
Proteins	+	+
Carbohydrate	—	—
Anthraquinon	—	—

Result and Discussion

The phytochemical study was performed to find out the active compounds presence from the extract of distinct parts like stem and leaf of *Solanum xanthocarpum* is represented in table 1. The result of the study showcased the ethyl alcohol extract the presence active compounds like alkaloids, Flavonoids, Terpenoids, Steroids, Saponin and Proteins in a wide ranging across the the studies parts. Carbohydrate and Anthraquinon are absent. Table 2 the acetone extract the presence active compounds like alkaloids, Flavonoids, Steroids, Saponin and Proteins in a wide ranging across the the studies parts. Terpenoids Carbohydrate and Anthraquinon are absent.

CONCLUSION

The presence of phytochemical make the plant useful for treating different ailments and have a potential of providing useful drugs of human use. The presence of most general phytochemical might be responsible for their therapeutic effects. Many more templates from this plant in future may serve for the production of synthetically improved therapeutuic agents.

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