



# PRELIMINARY BIOCHEMICAL CHARACTERIZATION OF *IPOMOEA CARNIA JACQ* LEAVES.

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## Abstract:

A common weed of *Ipomoea carnea jacq.* It is frequently used to treat a wide range of health condition in a variety of traditional medical practices. The current study aims to perform a preliminary biochemical screening of *Ipomoea carnea* leaves for a number of bioactive components. The leaves of the plant were extracted with ethanol and the extract was tested for the presence of various secondary metabolites. The presence of important phytochemicals in the leaves was discovered leaves were rich in alkaloids, flavonoids, saponins, tannins and other bioactive components. The phytochemical screening of *Ipomoea carnea* leaves has played an Important role in the therapeutic action of the plant. The current study suggests that *Ipomoea carnea*, a common invasive weed with medicinal properties, be studied further for phytochemicals.

**Keyword:** *Ipomoea carnea*, phytochemicals Bioactive compound.

## INTRODUCTION

A well-known as weed is *Ipomoea carnea jacq.*, which belongs to the Convolvulaceae family. Because of its widespread prevalence, it is known as Besharam in Bihar, which means "shameless" Traditional medicine makes use of it. The plant's medicinal qualities extend to all portions of the plant. Its leaves are used as a purgative and to treat scorpion bites and fungal infections. Roots, stems, and latex are used to treat a variety of skin ailments. A great number of medicinal plant species are threatened due to deforestation and changing climatic circumstances, however in India, *Ipomoea carnea* grows abundantly in wastelands, wetlands, roadsides, canals, and river banks [1]. These plants have a high potential for usage as alternative therapeutic herbs for endangered species. It has become a naturalized species in India. The plant can be propagated both vegetatively (through stems that sprout roots in a matter of days) and sexually (by seeds and rapid growth) [2]. This species is employed as a folk medicine in traditional medical system such as Ayurveda, Siddha, and Unani [3]. The species most effective usage is to treat skin problems; the plant's milky (latex) juice is notably good in the treatment of leukoderma. Because of its anti-inflammatory properties, latex is used as an antiseptic to treat wounds in traditional medicine. A hot water extract of the entire plant is commonly used as an antirheumatic medication. It is employed as an aphrodisiac, purgative, and laxative in several traditional remedies [4]. The phytochemical examination of *Ipomoea carnea* leaves was the subject of this work. The leaves are light green, heart-shaped or lanceolate in form, and 10 to 25 cm long. The upper surface of the leaf is a dark green, while the lower surface is a lighter green. Leaves that receive insufficient sunlight can grow larger than leaves that receive sufficient sunlight [3]. Natural compounds originating from plants, such as flavonoids, terpenes, and alkaloids, have attracted increasing interest in recent years due to their various pharmacological effects [5]. Previous phytochemical analyses of *I. carnea* leaves identified many pharmacological components including hexadecanoic acid, stearic acid, 2-diethyl phthalate, and tetracontane leaves also contain swainsonine and

calystegine B1, B2, B3 and C1 [6]. Previous phytochemical screening studies on *I. carnea* have been conducted on the seeds, stems, leaves, roots, and entire plant [7]. However, there have been little investigations on the phytochemical screening and therapeutic capabilities of *I. carnea* in this part of the world. As a result, the existence of phytochemicals in *I. carnea* leaves was investigated in this study.

## MATERIALS AND METHODS:

### (1). Collect plant materials:

*Ipomoea Carnea* leaves were gathered from Gaya College, Gaya Campus. These plant species were identified using several scientific publications and discussions with Dr. Manoj Kumar, Assistant Professor, Department of Botany, S. N. Sinha College Tikari, Gaya (Bihar).

### (2). Prepare the extract:

The leaves are harvested without petioles and dried in the shade. The dried leaves were ground into powder using a blender to filter the ethanolic extract [7-8].

## RESULT

Qualitative analysis to detect the presence of phytochemical ingredients such as alkaloids, glycosides, saponins, proteins, phytosterols, terpenoids, phenolic compounds, flavonoids and tannins produced from the leaf extract of *I. Carnea*. The results of phytochemical analysis are presented in Table 1.

Table 1:

Qualitative screening of various phytochemicals.

S.No.	Name of Test	Test	Observation
1.	Test for Alkaloids	1ml ethanolic extract + few drops of dilute HCL + Wagner's Reagent	Red Brown ppt
2.	Test for Glycosides	1ml ethanolic extract + 0.5ml Conc H <sub>2</sub> SO <sub>4</sub> + 1ml Benzene	Dirty yellow ppt
3.	Test for Saponins	0.5ml ethanolic + 5ml dist. Water + shake well and allow to stand	Continuous frothing
4.	Test for Proteins	1ml ethanolic extract + 1drop 2% CuSO <sub>4</sub> +1ml 95% ethanol+excess KOH pellets	Pink
5.	Test for Polyesterols	2ml malic extract+ 2ml acetic Anhydride+ few drops Conc. H <sub>2</sub> SO <sub>4</sub> along side of test tube	Array of colour change
6.	Test for Terpenes	1ml ethanolic extract + 2ml chloroform, shake well+ equal volume of conc. H <sub>2</sub> SO <sub>4</sub> .	Yellow to brick red
7.	Test for Phenolic compounds	1ml ethanolic extract + neutral 5% FeCl <sub>3</sub>	Dark green colour
8.	Test for Flavonoids	2ml ethanolic extract + 10% NH <sub>4</sub> OH	Yellow fluorescence
9.	Test for Tannins	1ml ethanolic extract + few drops of 5% FeCl <sub>3</sub>	Deep blue to black colour



## DISCUSSION.

Secondary metabolites including alkaloids, flavonoids, carbohydrates, saponins, tannins, terpenoids, steroids, and phenolic chemicals have an important role in biological activities like anti-inflammatory, antioxidant, analgesic, antibacterial, and protective for the liver [9]. Flavonoids are potent antioxidants and free radical scavengers, which protect cells from oxidative damage [8]. This suggests that the leaves of *I. carnea* have a high potential for application as antioxidants in medicine. Plant alkaloids, like cocaine and caffeine, have been utilised as psychostimulants, or central nervous system stimulants. *I. Violaceae* and *I. tricolor cav.* seeds contain the alkaloids ergoline and are a source of psychedelic drugs [9]. As a result, the alkaloids found in the leaves of a certain plant can be used to create potent narcotic medications. Plant phenolic compounds have been examined primarily for their anti-oxidative characteristics, which lead to a variety of degenerative illnesses. Polyphenolic chemicals also help to prevent the development of cancer, diabetes, osteoporosis, and cardiovascular disease. [10]. Because phenolic compounds are crucial, the existence of these chemicals in the selected plant, *I. carnea*, required to be investigated further:

Dietary phytosterols are known to be anti-cancer, and triterpenoids are good in inflammatory disorders, arthritis, and have anti-cancer and antibacterial characteristics. Glycosides are recognised to have immune-boosting properties, making them valuable as dietary supplements. Glycosides have key roles in plants by participating in regulation, transpiration, and defensive processes [11]. During the current investigation, the leaves contained the most phytochemicals. More thorough studies on leaves are required, including quantitative estimation.

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