

## PHYTOCHEMICAL SCREENING AND ANALYSIS OF SELECTED MEDICINAL PLANT IN LOCAL AREA

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### Abstract:

Phytochemical is a valuable step. Medicinal plants have a bioactive compound which is used for curing of various diseases. Medicinal plants are an important source of phytochemicals that offer traditional medicinal treatment of various ailments.. The present study involves in medicinal plants *Catheranthus roseus*, *Ocimum sanctum* locally available in Akola. The samples were extracted using solvents like acetone, chloroform, ethanol, petroleum ether and water. These mixtures were shaken at room temperature for 24 h. After incubation, the extracts were filtered using Whatman No.1 filter paper, collected and stored at 4°C. Preliminary phytochemical screening was performed by standard methods. The phytochemical screening revealed the presence of alkaloids, carbohydrates, flavonoids, phytosterols, proteins, steroids, terpenoids, phenols, saponins, quinones, coumarins and glycosides. The result reveals the presence of bioactive constituents comprising alkaloids, flavonoids, phenolics, tannins, glycosides, steroids and saponins in different solvents. The presence of these phytochemicals can be correlated with the medicinal potential of this plant.

**Key words:** Photochemistry, *Catheranthus roseus*, *Ocimum sanctum* , Phyto-constituents

### Introduction:

Medicinal plants play a major role in meeting the medical and health needs of about 70% of populations in developed and developing countries, which serve as an important resource for the treatment of various maladies and illnesses (Ngari et al., 2010). Globally, about 85% of the traditional medicines used by different ethnic groups inhabiting various terrains for primary healthcare are derived from plants, especially in India; medicinal plants are widely used by all sections of the population with an estimated 7500 species of plants used by several ethnic communities (Farnsworth, 1988). The plant is being used by the local peoples and tribal of Maharashtra as ethno medicine on various ailments. This plant is also being used for its anti-inflammatory, anti-diarrheal properties by various communities in Indian subcontinent and also across the world. The present study was designed to evaluate the fundamental phytochemical constituents of are known to have various biological activities such as antimicrobial, antifungal, antioxidant, etc. The important bioactive components in plants are usually the secondary metabolites such as alkaloids, flavonoids, tannins and other phenolic compounds (Edeoga et al., 2005). The Medicinal plants have potent phytochemical components which are important source of antibiotic compounds and are responsible for the therapeutic properties (Jeeva et al., 2011; Jeeva and Johnson, 2012; Florence et al., 2012 & 2014; Joselin et al., 2012 & 2013; Sainkhediya and Ray, 2012; Sumathi and Uthayakumari, 2014). Therefore, the present work aims at evaluating the phytochemical composition, by qualitative and quantitative methods, of methanol, ethanol and chloroform extracts namely, *Ocimum sanctum*, *Catheranthus roseus* are known to be of medicinal use. The use

of *Ocimum sanctum*, and *Catheranthus roseus*, in traditional medicine is represented in table 1.

**Table 1: Medicinal uses of the plants in the study**

Plant species	Common name in English	Traditional uses
<i>Ocimum sanctum</i>	Basil	Cough cold, chronic fever, sore throat, bronchial asthma, malaria, bronchitis, skin diseases, arthritis, diarrhea, dysentery.
<i>Catheranthus roseus</i>	Pink rose	Rheumatism, Dyspepsia, Diabetes, Cancer, Skin disess

### Material and Methods

The plant material was collected from local area

#### Preparation of crude extracts

Fresh leaves were collected, washed with distilled water, shade dried till it is crisp (approximately 15 days) and cut into small pieces. These dried samples were powdered and stored at 4° C until further use. Crude extracts (10% w/v) were made using 3 solvents i.e., methanol, ethanol and chloroform. The extracts were filtered through fine muslin cloth and the clear filtrate was evaporated to dryness to form the crude extract and stored at 4° C for further use.

#### Phytochemical Screening:

The chemical tests were carried out with the crude extracts of each plant i.e., methanol extract (ME), Ethanol extract EE and Chloroform extract CE.

**Tests for Tannins:** About 2 ml of the aqueous extract was stirred with 2 ml of distilled water and few drops of FeCl<sub>3</sub> Solution were added. Formation of green precipitate was indication of presence of tannins.

**Tests for Saponins:** 5 ml of aqueous extract was shaken vigorously with 5 ml of distilled water in a test tube and warmed. The formation of stable foam was taken as an indication of the presence of saponins.

**Test for phlobatannins:** About 2 ml of aqueous extract was added to 2 ml of 1% HCL and the mixture was boiled. Deposition of red precipitate was taken as an evidence for the presence of phlobatannins.

**Tests for Flavonoids:** To 1 ml of aqueous extract, 1 ml of 10% lead acetate solution was added. The formation of a yellow precipitate was taken as a positive test for flavonoids.

**Test for terpenoids:** 2ml of the organic extract was dissolved in 2 ml of chloroform and evaporated to dryness. 2 ml of concentrated sulphuric acid was then added and heated for about 2 min. Development of a greyish colour indicates the presence of terpenoids.

#### Test for glycosides: Liebermann's test:

2ml of the organic extract was dissolved in 2 ml of chloroform and then 2 ml of acetic acid was added in it. The solution was cooled well in ice. Sulphuric acid was then added carefully, a colour change from violet to blue green indicates the presence of a steroidal nucleus (that is, a glycone portion of glycoside).

**Test for steroids:** 1. A red colour produced in the lower chloroform layer when 2 ml of organic extract was dissolved in 2 ml of chloroform and 2 ml concentrated sulphuric acid was added in it, indicates the presence of steroids. 2. Development of a greenish colour when 2 ml of the organic extract was dissolved in 2 ml of chloroform and treated with sulphuric and acetic acid indicates the presence of steroids.

Table 2: Phytochemical constitute of the leaf extract:

Phyto-constituents	<i>Ocimum sanctum</i>			<i>Catharanthus roseus</i>		
	EE	ME	CE	EE	ME	CE
Flavonoids	+	+	+	-	+	+
Tannin	-	-	+	-	-	-
Steroids	+	+	+	+	-	-
Terpenoids	+	+	+	-	+	+
Saponins	+	+	-	-	-	+
Glycosides	+	+	+	-	+	+
Phlobatannins	+	+	+	+	+	-

### Results and Discussion :

Selected plants leaves were collected in local area, they were wash with normal tap water followed by sterile distil water. After dried leaves in room temperature they crushed and for a powder by using grinding machine. . The result of phytochemicals in the present investigation showed that the plant contain more or less same components like saponin, triterpenoids, sterioids, glycosides, anthraquinone, flavonoids, Proteins and amino acids. The result indicate that the presence of constituents which known to exhibit the physiological as well as medicinal activity

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