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## Phytochemical analysis of some weeds

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Weeds are unwanted plants growing at waste places as well as many other important places like farm yards, play grounds, public places, water bodies, etc. Weeds are well known for their negative importance but they are easily available in large amount. There are different ways to control weed population, one of them is their use for human betterment. Weeds are noxious and difficult to control, but few of them are having medicinal properties hence the qualitative phytochemical screening of some weeds viz; *Alternanthera sessilis*, *Amaranthus spinosa*, *Lantana camera*, *Xanthium strumarium* has been carried out. The phytochemical analysis of these weeds gives an idea about secondary metabolites present in them such as Alkaloids, Cellulose, Carbohydrates, Flavonoides, Glycosides, Phenols, Quinons Saponins, Tannins, Terpenoids, Triterpenoids, and Steroids.

**Key words:** Secondary metabolites, *Alternanthera sessilis*, *Amaranthus spinosa*, *Lantana camera*, *Xanthium strumarium*, weeds.

### INTRODUCTION

Weeds are the plants growing out of place and out of time. They have occupied hectares of fertile as well as non fertile land. They compete with crops for space, water and minerals. Weeds are unwanted plants, but all unwanted plants may not be weeds<sup>1</sup>. Generally weeds have been neglected and their use for medicinal purpose has not been considered on a large scale. For the progress of human beings the plant recourses play an important role they fulfill many needs viz; food, fuel, fiber and medicine. In Indian ancient literature observed that each and every plant on this planet are useful in medicine, industry and allelopathy<sup>2</sup>. The different phytochemicals like Alkaloids,

Cellulose, Carbohydrates, Flavonoides, Glycosides, Phenols, Quinons Saponins, Tannins, Terpenoids, Triterpenoids, Steroids and many others screen out in the plants are key reservoirs of many new essential drugs. Phytochemical analysis is the primary way to the discovery of new useful drugs. Plants are the greatest reservoirs or recourses of drugs of traditional systems of medicine, phytochemical intermediates and chemical entities for synthetic drugs<sup>3</sup>. Weed flora of a Satara district is very rich and the dominant families are Asteraceae and Poaceae. Most of the weeds are common in both kharip and rabbi season. During the study phytochemical analysis

of following dicot weeds has carried out using standard methods.

### **MATERIALS AND METHODS**

Anthocyanins and Leucoanthocyanins<sup>4</sup>, Benedict's test for reducing sugar<sup>5</sup>, Hagers test for Alkaloid<sup>6</sup>, Tannins<sup>7</sup>, Saponins<sup>8</sup>, Terpenoids by Salkowski test<sup>9</sup> and compounds like Phenols, Flavonoids, Cellulose, Glycosides and Triterpenes compounds<sup>10</sup> were conducted.

### **Extraction of plant material**

The oven dried leaves of weeds were converted in to powder with the help of mixer; this 2gm of dried powder was successively dissolved in 50ml of distilled water. This extract was filtered with the help of Buchner funnel.

### **RESULT AND DISCUSSION**

The phytochemical screening of four weeds was studied and showed positive test (Table No. 1) for saponin, phenol, terpenoid & tannin compounds and negative for quinon and steroids. Only *Amaranthus spinosa* gives positive response for flavonoids. Only one weed plant showed positive test for Alkaloids. Presence of Alkaloids, saponins, tannins, and flavonoids compounds in weeds are having curative activity against several disorders and therefore weeds are use traditionally for the treatment of various illnesses<sup>11, 12</sup>. Weeds plants are rich in alkaloids, tannins and glycosides, show antimicrobial activity against a number of microorganisms<sup>13</sup> Saponin has been shown to have immense significance as antihypercholesterol, hypotensive and cardiac depressant properties<sup>17</sup>. Presence of tannins suggests the ability of this plant

to play a major role as antidiarrhoeic and antihaemorrhagic agent<sup>14</sup>.

Weeds shows positive test for phenols, They have biological properties such as antiapoptosis, antiaging, anticarcinogen, antiinflammation, antiatherosclerosis, cardiovascular protection and improvement of endothelial function, as well as inhibition of angiogenesis and cell proliferation activities. The Glycosides present in only in *Amaranthus spinosa*. Glycoside appeared to be the major bioactive component that offers antisecretory and antiulcer effects<sup>15, 16</sup>. The cardiac glycosides have been used for over two centuries as stimulants in cases of cardiac failure<sup>7,18</sup>. Plant glycosides, which are not normally toxic when ingested orally, are known to inhibit chloride transport in the stomach<sup>19</sup>.

### **CONCLUSION**

Positive response of weed for presence of secondary metabolites indicates that these weeds can be used in medicine as per requirement of secondary metabolites. It is evidence from result & literature available presence of phenol indicate usefulness of these weeds as having antiapoptosis, antiaging, anticarcinogen, antiinflammation properties.

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**Table no.1** Preliminary phytochemical screening of some weeds

Test conducted		Weeds			
		<i>Alternanthera sessilis</i>	<i>Amaranthus spinosa</i>	<i>Lantana camera</i>	<i>Xanthium strumarium</i>
Alkaloids	Mayer's test	-	+	-	-
	Wagner's test	-	+	-	-
	Dragendroff's test	-	+	-	-
	Hager's test	-	+	-	-
Tannin by 1% lead acetate		+	+	+	+
Tannin by FeCl <sub>3</sub> and KOH method		+	+	+	+
Flavonoids		-	+	-	-
Phenols		+	+	+	+
Terpenoids		+	+	+	+
Saponins		-	+	+	+
Glycosides		-	+	-	-
Carbohydrates	Molisch's test	+	+	+	-
	Benedict's test	+	+	+	-
	Fehling's test	+	+	+	-