

Phytochemical Analysis of *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata*

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Abstract— *Lantana camera*, *Oxalis coniculata* and *Sphagneticola trilobata* are rapidly growing weed in Maharashtra, were selected and aimed to investigate the presence of phytochemicals in leaf and stem. Aqueous, Acetone and Methanol Solvents were used for phytochemical analysis. Our findings provides evidence, that aqueous and organic solvent extracts of these plants contain medicinally important bioactive compounds.

Keywords— *Lantana camera*, *Oxalis coniculata*, *Sphagneticola trilobata* Phytochemicals screening, Qualitative.

I. INTRODUCTION

Phytochemicals generally originated from the plant source are bioactive compounds also known as secondary metabolites. These are synthesized in almost all parts of plants and are used by the local peoples for healing of certain disorders [Ugochukwu *et al.*, 2013; Epko & Etim, 2009].

Plants product have been part of phytomedicines since time immemorial. This can be derived from barks, leaves, flowers, roots, fruit, seeds. Knowledge of the chemical constituents of plants is desirable because such information will be value for synthesis of complex chemical substances [Yadav, 2011].

Medicinal plants contain some organic compounds which provide definite physiological action on the human body and these bioactive substances include tannins, alkaloids, carbohydrates, terpenoids, steroids and flavonoids [Edoga *et al.*, 2005]. These compounds are synthesized by primary or rather secondary metabolism of living organisms. Secondary metabolites are chemically and taxonomically extremely diverse compounds with

obscure function. They are widely used in the human therapy, veterinary, agriculture, scientific research and countless other areas [Vasu *et al.*, 2009]. A large number of phytochemicals belonging to several chemical classes have been shown to have inhibitory effects on all types of microorganisms in vitro [Cowan 1999].

Plant products have been part of phytomedicines since time immemorial. This can be derived from barks, leaves, flowers, roots, fruits, seeds [Criagg and David 2001]. Knowledge of the chemical constituents of plants is desirable because such information will be value for synthesis of complex chemical substances [Mojab *et al.*, 2003; Parekh and Chanda, 2007; & Parekh and Chanda, 2008].

The present study was undertaken to evaluate the phytochemical analysis of *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata*, stem and leaves.

II. MATERIALS AND METHODS

Collection of plant material

Fresh plant material of *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata* were collected from different regions of Washim district, Maharashtra, India. It commonly occur in cultivated land, along with roadside, Shady & moist places. plant material washed under running tap Water 2-3 times to remove soil particles and dust. the plant material were shaded for 12 days. After drying plant materials grinded into fine powder using mechanical blender and then transfer into airtight Container with proper labeling for further use.

Preparations of solvent Extracts

Stem and leaves of the plant samples were thoroughly washed with running tap water 2-3 times and then finally washed with distilled water followed by shade-dried for seven days and then dried in an oven below 50°C. The dried plant materials were then powdered using mixer and grinder. 30g of plant powder were extracted with 100ml of aqueous, acetone and methanol. After 24 hours, it was filtered through a filter paper, filtrate was collected. Test can be Conducted then and there it self after Collection or Can be stored in refrigerator for Conducting test later.

Phytochemical screening

Extracts of stem and leaves of *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata* using aqueous, acetone and methanol were subjected to various chemical tests in order to determine the secondary plant constituents (Velavan, 2015):

Test for Alkaloids

Mayer's test

A few drop of Mayer's reagents was added the Turbidity of the resulting precipitate indicates positive test for alkaloids.

Test for Tannins

A few chops of 0.1% ferric chloride was added and observed blackish-blue or brownish green Coloration indicates the Presence of Tannins.

Test for saponins

Extract was mixed with 5 ml of distilled Water in a test tube and then it was shaken vigorously,

formation of stable foam indicates presence of Saponins.

Test for Flavonoids

Extract were treated with few drops of lead acetate solution yellow Coloration indicates. The presence of flavonoids.

Test for phenol

Crude Extract were treated with 3-4 drops of ferric chloride solution. bluish black or blue green colour indicate positive test for phenol.

Test for Terpenoids

(Salkowski test)

Extract was mixed in 2 ml of chloroform and concentrated H₂SO₄ (3ml) was carefully added to form a layer. A radish brow coloration of thin inter face was formed it indicates positive test for terpenoids.

Test for amino acids

Ninhydrin test

Crude extract when boiled With 2 ml of 0.2% Solution of Ninhydrin Violet color indicates the presence of amino acids.

Test for Carbohydrates

Benedict's test

2 ml of Benedict's reagent added and heated on boiling Water bath for 2 min. reddish brown precipitate indicates the presence of Carbohydrates.

Test for Glycosides

To known volume of extract 1 ml of distilled Water added and aqueous solution of NaOH was added formation of yellow color indicates positive test for Glycosides.

III. RESULTS AND DISCUSSION

Phytochemical analysis of aqueous, acetone and methanol extract of *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata* shows positive test for tannin. Carbohydrates were absent in the extracts of all the plants. Amino acids were absent in the extracts of all the plants except aqueous extract of leaf of *Lantana camera*. Terpenoids were present in methanol extract of stem, acetone and methanol extract leaf of *Lantana camera*. Terpenoids were absent in acetone extract of *Oxalis corniculata*.

Glycoside were present in all extract except aqueous extract of stem of *Sphagneticola trilobata*. The results of phytochemical contents stem and leaf in Aqueous, Acetone and Methanol of *Lantana camera* [Table 1 and

Table-2], *Oxalis corniculata* [Table-3 and Table 4] and *Sphagneticola trilobata* [Table-5 and Table 6) are reported.

Table 1: Phytochemical analysis of Aqueous, Acetone and Methanol extract of stem of *Lantana camera*

Test	Aqueous	Acetone	Methanol
Alkaloid	-	+	-
Tannin	+	+	+
Saponin	+	-	+
Flavonoid	+	-	+
Phenol	+	+	+
Terpenoids	-	-	+
Amino acid	-	-	-
Carbohydrate	-	-	-
Glycoside	+	+	+

Table 2: Phytochemical analysis of Aqueous, Acetone and Methanol extract of leaf of *Lantana camera*

Test	Aqueous	Acetone	Methanol
Alkaloid	-	+	-
Tannin	+	+	+
Saponin	-	+	-
Flavonoid	-	-	+
Phenol	+	-	+
Terpenoids	-	+	+
Amino acid	+	-	-
Carbohydrate	-	-	-
Glycoside	+	+	+

Table 3: Phytochemical analysis of Aqueous, Acetone and Methanol extract of stem of *Oxalis corniculata*

Test	Aqueous	Acetone	Methanol
Alkaloid	+	-	-
Tannin	+	+	+
Saponin	+	-	-
Flavonoid	-	+	-
Phenol	+	+	+
Terpenoids	+	-	+
Amino acid	-	-	-
Carbohydrate	-	-	-
Glycoside	+	+	+

Table 4: Phytochemical analysis of Aqueous, Acetone and Methanol extract of leaf of *Oxalis corniculata*

Test	Aqueous	Acetone	Methanol
Alkaloid	-	-	-
Tannin	+	+	+
Saponin	+	-	+
Flavonoid	+	-	-
Phenol	+	+	+
Terpenoids	+	-	+
Amino acid	-	-	-
Carbohydrate	-	-	-
Glycoside	+	+	+

Table 5: Phytochemical analysis of Aqueous, Acetone and Methanol extract of stem of *Sphagneticola trilobata*

Test	Aqueous	Acetone	Methanol
Alkaloid	-	-	-
Tannin	+	+	+
Saponin	+	+	-
Flavonoid	-	+	-
Phenol	+	-	+
Terpenoids	+	+	-
Amino acid	-	-	-
Carbohydrate	-	-	-
Glycoside	-	+	+

Table 6: Phytochemical analysis of Aqueous, Acetone and Methanol extract of leaf of *Sphagneticola trilobata*

Test	Aqueous	Acetone	Methanol
Alkaloid	-	-	-
Tannin	+	+	+
Saponin	+	-	-
Flavonoid	-	-	+
Phenol	+	+	+
Terpenoids	+	-	+
Amino acid	-	-	-
Carbohydrate	-	-	-
Glycoside	+	+	+

IV. CONCLUSION

The *Lantana camera*, *Oxalis corniculata* and *Sphagneticola trilobata* these plants are source of secondary metabolites and the solvent choice is very important for extraction of Phytochemical from plants. Medicinal plants are helpful for discovering and Manufacturing of new drugs. The research on *Lantana camera* and *Oxalis corniculata* plants which can be medicinally important.

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