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PHYTOCHEMICAL ANALYSIS OF SEVEN VARIETIES OF ROOTS–TULASI-ALOE-VINCA-TURMERIC-NEEM-DATURA-AMLA-WITH-METHANOLIC-ETHANOLIC-CHLOROFORM-ISOPROPYL ALCOHOL EXTRACTS

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ABSTRACT

In the present study an attempt made on 7 varieties of root extracts namely Tulasi-Aloe-Vinca-Turmeric-Neem-Datura-Amla of the various maceration techniques by using different solvents like Methanol Ethanol Chloroform and Isopropyl alcohol. Currently Phytochemical studies on different roots by using the different solvents find their use and promising results and therapeutic effects on treating a wide variety of disorders. The present aim of the abstract is based upon the maceration of 7 varieties of roots followed by individual morphological studies, phytochemical analysis, and observation of different newly primary and secondary metabolites found by using different solvent extraction.

KEYWORDS: Morphological studies, Maceration, Maceration Extraction, Phytochemical Analysis.

INTRODUCTION

Since ancient period of civilization medicinal plants are known as one of the gifts of nature to cure a number of diseases of human beings. The knowledge of Ayurveda has led to the discovery of many potent bioactive agents in modern drug development. Still, 75 % of total population relies on the medicinal plants in the rural and remote areas by way of traditional systems of medicine. About 121 clinically useful prescription drugs worldwide are derived

from plants and 74% of them are being manufactured by pharmaceutical houses, eg., vinblastine, vincristine, morphine, codeine, quinine, atropine and digitoxin. Since then, many new chemical structures have ben discovered from medicinal plants and found to be useful medicinally.

Introduction to herbal materails used in project

Aloevera

Scientific name: Aloe vera

Order: Asperagales

Genus: Aloe

Species: Aloe vera

Family: Asphodelaceae

Therapeutic uses

- Skin burns & wounds,
- Anti acne and Antiseptic,
- Helps to treat skin Problems,
- Promotes hair growth.
- Anti-inflammatory
- Moisturiser
- Antidandruff & anti Hairfall agent
- Anti-oxidant
- Immunity booster
- Anti diabetes

Neem

- **Scientific name:** Azadirachta indica
- **Order:** Sapindales
- **Genus:** Azadirachta
- **Species:** Azadirachta Indica
- **Family:** Meliaceae

Therapeutic uses

- Leprosy,
- Eye disorders,
- Bloody nose,
- Skin ulcers,
- Anti aging effects,
- Promoting Wound healing,
- Anti Acne
- Fighting skin infections,
- Antiviral,
- Antibacterial,
- Antifungal

Turmeric

- **Scientific name:** *Curcuma longa*
- **Genus:** Zingiber
- **Species:** C. longa
- **Kingdom:** Plantae
- **Order:** Zingiberales
- **Family:** *Zingiberaceae*

Therapeutic uses

- Antiseptic,
- Anti inflammatory.
- Antiacne,
- Antioxidant.
- Antibacterial,
- Antiviral
- Anti-Allergic

Tulasi

- **Scientific name:** *Ocimum sanctum*
- **Genus:** Ocimum
- **Species:** O. tenuiflorum
- **Kingdom:** Plantae
- **Order:** Lamiales
- **Family:** ***Lamiaceae***

Therapeutic uses

- AntiAcne,
- Antimicrobial Agent,
- Carminative agent,
- Digestive Agent,
- Immunity Booster,
- Antioxidant

Amla

- **Scientific name:** *Emblica Officinalis*

- **Genus:** Emblica
- **Species:** E.Officinalis
- **Kingdom:** Plantae
- **Order:** Malpighiales
- **Family:** ***Euphorbiaceae***

Therapeutic uses

- Vitamin C,
- Cleansing,
- Antioxidant,
- Skin infections,
- Protective agent,
- Hair strengthener,
- Moisturizing agent,
- Anti acne
- Anti hair fall
- Immunity booster

Vinca

- **Scientific name:** *Catharanthus roseus*
- **Genus:** Catharanthus
- **Species:** Roseus
- **Kingdom:** Plantae
- **Order:** Gentianales
- **Family:** *Apocyanaceace*

Therapeutic uses

- To treat diabetes,
- Used as disinfectant,
- To treatHigh blood pressure,
- Childhood cancers.
- To treat lymphoma, leukemia.

Datura

- **Scientific name:** Datura var fastuosa
- **Genus:** Datura
- **Species:** Datura Metal var.fastuosa l
- **Kingdom:** Plantae
- **Order:** Solanales
- **Family:** *Solanaceae*

Therapeutic uses

- To treat diabetes,
- Used as anti inflammatory,
- To treat High blood pressure,
- Used to treat toothache.
- To treat dandruff & anti hairfall
- Stomach pain & intestinal disorders
- Analgesic & Anthelmentic

MATERIALS AND METHODS

The Roots of 7 varieties was collected from the medicinal garden and surroundings of Dhanvanthari institute of pharmaceutical sciences, sujathanagar, kothagudem Bhadradri dist of Telangana state in the month of January and February.

It was identified and authenticated by Pushpalatha Madam singareni junior and degree college for women. Plant specimen deposited at college herbarium auditorium with accession no 2024.

Chemicals and Reagent requirement

Methanol (Accord labs)
Ethanol (Accord Labs)
Isopropyl Alcohol (Accord labs)
Chloroform (Accord Labs)
Hydrochloric acid (Accord labs)
Sulphuric acid (Accord labs)
Sodium hydroxide (Accord labs)
Sodium carbonate (Accord labs)
Iodine (Accord labs)
Phloroglucinol (Sigma adrich labs)
Ferric choloride (Accord labs)
Glycerol (Accord labs)
Silica gel, central drug house Pvt Ltd

Equipment requirement

Heating mantle (Bio techniques india), weighing balance, micropipettes, autoclave, incubator, uvcabinet, refrigerator, hot air oven, microscope, chinadishes, silica crucible, watch glass, conical flasks.

Morphological Studies

The drug was evaluated by its colour, odour, taste, size and special features like texture, touch etc evaluation carried based on the morphological and sensory profiles of whole drug.

Maceration

Procedure

Procedure involves the leaving the simply widely the pulverized plant to soak in suitable solvent in a closed container.

The simple maceration is performed at room temperature by mixing the ground drug with the solvent (Drug solvent ratio: 1: 5 (or)1: 10) and leaving the mixture for several days with occasional shaking with occasional shaking or stirring. The extract is then repeated from the plant particles by staining.

The process is reapeated for once or twice with fresh solvent finally the last residue of extract is pressed out of the plant particles by using a mechanical press or centrifuge kinetic extraction differs from the simple one by continous stirring this method is suitable for both initial & bulk extraction.

Preparation of extracts

The aerial parts of roots 7 Varieties was washed properly with water to remove its earthy matter and was cut into the small pieces and dried in shade and powdered coarsely by using methanolic solvent mix properly and taken in a aspirator bottle at room temperature for 7- 10 days with shake ocassionaly and mix properly for every 24 hours.

The filtrate were collected nearly 80 % of solvent was removed by distillation over boiling water bath at atmospheric pressure and remaining under reduced pressure.

Preliminary phytochemical investigation

The preliminary phytochemical analysis gives a primary idea about presence of phytochemical in crude drugs.

The preliminary chemical tests were carried out for

1. **Alkaloids**

a) **Dragendorff's test:** To the extract add dil. HCl and Dragendorff's reagent, reddish brown precipitate indicates presence of alkaloids.

b) **Mayer's test:** To the extract add dil. HCl and Mayer's reagent, cream colored precipitate indicates presence of alkaloids.

c) **Wagner's test:** To the extract add dil. HCl and Wagner's reagent, reddish brown precipitate indicates presence of alkaloids.

d) **Hager's test:** To the extract add dil. HCl and Hager's reagent, yellow precipitate indicates presence of alkaloids.

e) **Tannic acid test:** To the extract add dil. HCl and tannic acid solution, buff colored precipitate indicates presence of alkaloids.

2. **Amino acids**

a) **Millon's test:** To the extract add about 2 ml of Million's reagent white precipitate indicates presence of amino acids.

b) **Ninhydrine test:** To the extract add Ninhydrine solution, boil, violet color indicates presence of amino acid.

3. **Carbohydrates**

a) **Molisch's test:** To the extract add few drops of alcoholic α-naphthol, then add few drops of concentrated sulphuric acid through sides of test tube; purple to violet color ring appears at the junction.

b) **Barfoed's test:** 1ml of extract is heated with 1 ml of Barfoed's reagent, if red cupric oxide is formed, monosaccharide is present. Disaccharides on prolong heating (about 10 minutes) may also cause reduction, owing to partial hydrolysis to monosaccharide's.

c) **Seliwinoff's test** (Test for ketohexoses)**:** To the extract add crystals of resorcinol and equal volume of concentrated hydrochloric acid and heat on a water bath, rose color is produced. (e.g. Fructose, honey)

d) **Test for pentoses:** To the extract add equal volume of hydrochloric acid containing a small amount of Phloroglucinol and heat, red color is produced.

4. **Flavonoids**

a) **Shinoda test:** To the extract add few magnesium turnings and concentrated hydrochloric acid dropwise, pink scarlet, crimson red or occasionally green to blue color appears after few minutes.

b) **Alkaline reagent test:** To the extract add few drops of sodium hydroxide solution, intense yellow color is formed which turns to colorless on addition of few drops of dilute acid indicate presence of flavonoids.

c) **Zinc hydrochloride test:** To the extract add a mixture of zinc dust and conc. hydrochloric acid. It gives red color after few minutes.

Glycosides

I. General test

Test A: Extract 200 mg of drug with 5 ml of dilute sulphuric acid by warming on a water bath. Filter it, then neutralize the acid extract with 5 % solution of sodium hydroxide. Add 0.1 ml of Fehling's solution A and B until it becomes alkaline [test with pH paper] and heat on a water bath for 2 minutes.

Note the quantity of red precipitate Formed and Compare with that of formed in Test B.

Test B: Extract 200 mg of the drug using 5 ml of water instead of sulphuric acid. After boiling add equal amount of water as used for sodium hydroxide in the above test. Add 0.1 ml Fehling's A and B until alkaline (test with pH paper) and heat on water bath for 2 minutes. Note the quantity of red precipitate formed.

Compare the quantity of precipitate formed in Test B with that of formed in Test A. If the precipitate in Test A is greater than in Test B then glycoside may be present. Since Test B represents the amount of free reducing sugar already present in the crude drug, whereas Test A represents free reducing sugar plus those related on acid hydrolysis of any glycoside in the crude drug.

Specific chemical tests for glycosides

A. Anthraquinone glycosides

a) Borntrager's test: Boil the test material with 1 ml of sulphuric acid in a test tube for 5 minutes. Filter while hot. Cool the filtrate and shake with equal volume of dichloromethane or pet ether. Separate the lower layer of dichloromethane or pet ether and shake it with half of its volume of dilute ammonia. A rose pink to red color is produced in the ammoniacal layer.

b) Test for hydroxyl anthraquinones: Treat the sample with potassium hydroxide solution red color is produced.

B. Cardiac glycosides

a) Kedde's test: - Extract the drug with pet ether, evaporate to dryness. Add one drop of 90 % alcohol and 2 drops of 2 % 3, 5-dinitro benzoic acid in 90 % alcohol. Make alkaline with 20 % sodium hydroxide solution, purple color is produced. The color reaction with 3, 5-dinitro benzoic acid depends on the presence of α, β-unsaturated lactones in the aglycone.

b) Killer-Killani test [test for de-oxy sugars]**:** Extract the drug with petroleum ether and evaporate it to dryness. Add 0.4 ml of glacial acetic acid containing trace amount of ferric chloride. Transfer to a small test tube; add carefully 0.5 ml of concentrated sulphuric acid by the side of the test tube. Acetic acid layer shows blue color.

c) Raymond's test: Treat the extract with hot methanolic alkali, violet color is produced.

d) Legal's test: Treat the extract with pyridine and add alkaline sodium nitroprusside solution, blood red color appears.

e) Baljet's test: Treat the extract with picric acid or sodium picrate, orange color is formed.

C. Coumarin glycosides

Place a small amount of sample in test tube and cover the test tube with a filter paper moistened with dilute sodium hydroxide solution. Place the covered test tube on water bath for several minutes. Remove the paper and expose it to ultraviolet (UV) light, the paper shows green fluorescence.

Saponin glycosides

a) Froth formation test: Place 2 ml solution of drug in water in a test tube, shake well, stable froth (foam) is formed.

b) Haemolysis test: Add 0.2 ml of extract to 0.2 ml of blood in normal saline and mix well. Centrifuge and note the red supernatant compare with control tube containing 0.2 ml of 10 % blood in normal saline diluted with 0.2 ml of normal saline.

RESULTS AND DISCUSSION

The morphological study Reveals that the

Colour

Odour

Taste

Consistency etc

Maceration

Procedure

Procedure involves the leaving the simply widely the pulverized plant to soak in suitable solvent in a closed container. simple maceration is performed at room temperature by mixing

the ground drug with the solvent (Drug solvent ratio 1:5 or 1:10) and leaving the mixture for several days with occasional shaking or stirring. The extract is then repeated from the plant particles by straining. The process repeated for once or twice with the fresh solvent finally the last residue of extract is pressed out of the plant particles using mechanical press or centrifuge.

Kinetic extraction differs from simple one by continuous stirring this method suitable for both initial & bulk extraction.

The colour consistency and yield of macerated extract root of 7 varietes by using the methanol solvent, Ethanol, chloroform, isopropyl alcohol Colour& consistency depending upon the extracts.

Maceration extracts

Tulasi extracts	**Colour**	**Consistency**	**Yield %w/w**
Methanol	Blackish brown	Sticky	1.5%
Ethanol	Blackish brown	Sticky	1.6%
Isopropyl alcohol	Light brown	Syrupy	1.8%
Chloroform	Light brown	Syrupy	1.9%

Aloe extracts	**Colour**	**Consistency**	**Yield %w/w**
Methanol	Blackish brown	Sticky	1.8%
Methanol	Blackish brown	Sticky	2.3%
Isopropyl Alcohol	Light brown	Syrupy	2.5%
Chloroform	Light brown	Syrupy	2.5%
Vinca Extracts	Colour	Consistency	Yield %w/w
Methanol	Creamy Yellow	Sticky	1.8%
Ethanol	Creamy Yellow	Sticky	2.1%
Isopropyl Alcohol	Light yellow	Syrupy	2.2%
Chloroform	Light yellow	Syrupy	2.5%

Turmeric extracts	**Colour**	**Consistency**	Yield %w/w
Methanol	Yellowish brown	Sticky	1.6%
Ethanol	Yellowish brown	Sticky	2.1%
Isopropyl alcohol	Light Yellow	Syrupy	2.3%
Chloroform	Light Yellow	Syrupy	2.5%

Neem extracts	**Colour**	**Consistency**	**Yield %w/w**
Methanol	Brown	Sticky	1.5%
Ethanol	Light brown	Sticky	2.1%
Isopropyl alcohol	Brown	Syrupy	2.4%
Chloroform	Brown	Syrupy	2.8%

Datura extracts	Colour	Consistency	Yield %w/w
Methanol	Light brown	Sticky	1.5%
Ethanol	Light brown	Sticky	2.1%
Isopropyl alcohol	Yellow	Syrupy	2.4%
Chloroform	Creamy Yellow	Syrupy	2.9%

Amla extracts	Colour	Consistency	Yield %w/w
Methanol	Light Creamy	Sticky	1.4%
Ethanol	Light Creamy	Sticky	2.1%
Isopropyl alcohol	Creamy	Syrupy	2.4%
Chloroform	Creamy	Syrupy	2.9%

Methanol & Ethanol extracts shows Light brown colour sticky consistency while the Isopropyl Alcohol &Chloroform shows the light brown,yellow & light creamy colour which is syrupy in consistency the percentage yield was low for methanol powder extract and the percentage consistency was high for the Ethanol>Isopropylalcohol>chloroform extract.

S. No.	Name of the Test –Tulasi	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	+	+
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-

Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Aloe	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	+	+
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	+	+

S. No.	Name of the Test- Vinca	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+

2.	Barfoed's Test	+	+
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Turmeric	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			

1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Neem	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	+	+
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Datura	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	+	+

2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	+	+
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Amla	Methanol	Ethanol
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	-	-
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			

1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Tulasi	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	-	-
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			

1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Aloe	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	-	-
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Vinca	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+

2.	Barfoed's Test	+	+
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Turmeric	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	-	-
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	+	+
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+

General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Neem	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	+	+
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test- Datura	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	+	+
2.	Tannic acid Test	+	+
Test for amino acids			
1.	Millons Test	-	-
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	-	-
2.	Barfoed's Test	-	-
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			
1.	Shinoda Test	-	-
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General Test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	-	-	-
Specific chemical test for glycosides			
1.	Legal's test	-	-
2.	Baljet's test	-	-
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	-	-

S. No.	Name of the Test-Amla	Isopropyl Alcohol	Chloroform
Test for alkaloids			
1.	Dragendroff's Test	-	-
2.	Tannic acid Test	-	-
Test for amino acids			
1.	Millons Test	+	+
2.	Ninhydrin Test	+	+
Test for carbohydrates			
1.	Molisch's Test	+	+
2.	Barfoed's Test	+	+
3.	Seliwinoff's test	-	-
4.	Osazone formation Test	+	+
Test for flavonoids			

1.	Shinoda Test	+	+
2.	Alkaline reagent Test	+	+
3.	Zinc hydrochloride test	+	+
Test for phenolic compounds			
1.	Ferric chloride test	+	+
Test for Steroids & Triterpenoids			
1.	Libermann- Burchard Test	-	-
2.	Salkowaski test	+	+
3.	Sulfur powder test	+	+
General test for glycosides			
1.	Test A & B	Precipitate of Test A is than Test B	Precipitate of Test A is than Test B
	+	+	+
Specific chemical test for glycosides			
1.	Legal's test	+	+
2.	Baljet's test	+	+
Saponin glycosides			
1.	Froth formation Test	+	+
Anthraquinone glycosides			
1.	Borntrager's test	+	+

DISCUSSION

Maceration process of the drug with increasing polarity the Methanol Ethanol, Isopropyl alcohol Chloroform. The colour changes reflect the Nature of the chemical components present in the plant parts depending upon the solvent system. Hence this parameter is very important technique for the identification of plant species.

From the above phyto chemical screening of 7 varieties of root extracts (+) indicates positive whereas (–) indicates the negative. By performing different varieties of Root Extracts Namely **Tulasi-Aloe-Vinca-Turmeric-Neem-Datura-Amla** it is notified that already it has shown the presence of flavonoids, glycosides, aminoacid, triterpenoids, amino acids,steroids and coumarin Glycosides reported By performing with 7 varieties of different solvent system especially in Aloe, Amla, Turmeric flavonoids have been reported in Amla glycosides have been reported. The flavonoids& glycosides may be due to presence of sweeterns, colour in those drugs and rich source of anti-oxidants present in those crude drug.

By performing above preliminary analysis we came to an conclusion that this root etract have shown promising results with newer solvents. Hence the natural 7 varieties of root extract has suitable antioxidant activity can be used for the potent antioxidant treatment. Further investigation has to be done.

CONCLUSION

Based on literature review 7 varieties **Tulasi-Aloe-Vinca-Turmeric-Neem-Datura-Amla** of Root extract was traditionally used as an antioxidant agent, Different activities are already reported in different parts of plant. Antioxidant activity on the roots of the plant was reported phytochemical analysis with different solvents has revealed the presence of amino acids carbohydrates cardiac glycosides saponins flavonoids, phenolic compounds, triterpenoids etc. Presence of Flavanoids & Glycosides reported in amla-aloe extracts of all the solvents.

The studies on the preliminary phytochemical and anti oxidant activity on 7 Root extracts has proved that the Chloroform extract may be of possessing antioxidant free radical scavaging activity this effect may be due to presence of saponins flavonoids, phenolic and triterpenoidal, Glycosidal compounds in the Chloroform Extract of Amla root Extract. Furthur Investigation on antioxidant activity have to be done.

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