PRELIMINARY PHYTOCHEMICAL ANALYSIS OF MULTIPLIED MEDICINAL PLANTS


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ABSTRACT
Plant is the most important part of the life and the present study area was conducted in the region of Vaijapur Tahsil villages. In this study depending on multiplied medicinal plant part those are not in use for treat to medicine likewise Dolichandrone falcate (Leaf), Bryophyllum pinnaturn (Leaf), Bryophyllum pinnatum (stem), Santalum album (Bark), Santalum album (Leaf), Aegle marmelos( leaf ), Aegle marmelos (fruit), Chlorophyllum borivilianum (Leaf), Murraya koenigii (leaf), Hemidesmus indicus (leaf), Citrus medica (fruit coat), Citrus medica (leaf), Citrus medica (fruit juice), Justicia adhatoda (leaf), all this plant part taking fine powder to extraction we carried out Phytochemical analysis for observation to detection Alkaloid, Steroid, Reducing Sugar, Tannin, Glycoside, Saponin, Carbohydrate, Flavonoids, Terpenoid, Amino Acid & Protein. as the observation result is been detected most of the Alkaloid, Reducing Sugar, Glycoside, Flavonoids, Terpenoid, Amino Acid & Protein and less amount of Steroid, Tannin, Saponin.

Keyword: Medicinal Plant, Phytochemical.

INTRODUCTION:
India is the world best country to Ayurveda and many Traditional Healer to treat many people. In this project selected area is Maharashtra state in Aurangabad district in Vaijapur Tahsil in different villages. We visit different villages and meet the traditional healers get them information about using herbal medicine and how to treat the patient. Informally we going to find out the traditional healers using Natural plant material so we already collected to fruit and seed to Germinating selected medicinal plant and plant grown up to using a part to find out the secondary metabolite to analysis in laboratory and detection of metabolite for future study. (Mangesh S. Kharate, 2015)

MATERIAL & METHOD:
Collection Site: The present study carried out in Maharashtra State in Aurangabad District in Vaijapur Tahsil in different villages to collection of planted multiplied medicinal plant by our survey and student research project to finding the traditional heales to use some medicine to direct forest our crop land and to treat the patients. (Mangesh S. Kharate, 2015)

Plant Material:
Planted Medicinal Plant likewise Dolichandrone falcate (Leaf), Bryophyllum pinnatum (Leaf), Bryophyllum pinnatum (stem), Santalum album (Bark), Santalum album (Leaf), Aegle marmelos( Leaf), Aegle marmelos (fruit), Chlorophyllum borivilianum (Leaf), Murraya koenigii (leaf), Hemidesmus indicus (leaf), Citrus medica (fruit coat), Citrus medica (leaf), Citrus medica (fruit juice), Justicia adhatoda (leaf), collected the plant part and shade dry to remove moisture and grind the fine powder with the help of grinder and store the dry place. (Mangesh S. Kharate, 2015)

Extraction technique: Collected shade dried Plant part to take the fine powders for the using submerged culture technique to extraction by Aqueous, Ethanol solvent system to carried out primary phytochemical analysis.

DETECTION OF PHYTOCHEMICAL TEST:

Chemical test:
Detection of Alkaloids (Tululdar, et. al., 2010)
To take a 1ml of extract and add few drop mayer’s reagent and observed that alkaloid produce white yellowish precipitated most of alkaloid are neutral or slightly acidic to added mayer’s reagent.

Detection of Steroids (Tululdar, et. al., 2010; Siddiqui and Ali, 1997).
1 ml of extract was treated with 2.5 ml of acetic anhydride and 2.5ml of chloroform the concentrated solution of sulfuric acid was added slowly and red violet colour for steroids.

Detection of flavonoid (Tululdar, et. al., 2010; Siddiqui and Ali, 1997).
4ml of extract solution was treated 1.5ml of 50% methanol solution and this solution warmed and metal magnesium was added with 5-6 drops of concentrated hydrochloricacid. red colour was observed for flavonoid and orange colour for flavon.

Detection of tannin (Tululdar, et. al., 2010; Siddiqui and Ali, 1997).
1ml of extract solution, add 1ml of distil water and 1-2 drop of ferric chloride solution was added, blue colour observed for gallic tannin and black for catalolic tannin.
Detection of Reducing sugar (Tuludar, et. al., 2010)

1ml of extracts solution 1ml of distil water and this solution was warmed to add 5-8 drop Fehling solution A and B in sequencely were observed that for brick red precipitated it present content of Reducing sugar.

Detection of carbohydrate (Molish’s test) (Tiwari, el. al., 2011)

1ml extract were dissolved individually in 5ml distilled water and filtered this filtered solution use in test for presence of carbohydrate.5-6 drop Molish’s reagent was added and 2-3 drops of sulphuric acid added slowly without mixing form bottom layer, and appearance for purple ring it present all carbohydrate.

Detection of saponin (foam test) (Tiwari, el. al., 2011)

2ml of extract was shaken with 2ml of distil water if produced persists for 10min. it indicate presence of saponins.

Detection of Glycosides (Cardiac Keller- Killani test)(Richard, et. al., 2010)

To take 2ml of plant extract and add 1ml of glacial acetic acid and few drop of Fecl3and observation was carried out for brown colour ring was appearance glycosides present.

Detection of Terpenoid (Salkowski test) ( B. K. Das at. Al 2014)

Salkowski test was used to detect terpenoids. Extract (5 ml) was mixed with chloroform (2 ml), and concentrated sulphuric acid (3 ml) was carefully added to form a layer. A reddish brown coloration of the inter face was formed to show positive results for the presence of terpenoids.

Detection of Amino Acid & Protein (Ninhydrin Test) (B. K. Das at. Al 2014)

Take 1 ml amino acid solution add 5 drops of 0.2% ninhydrine solution in acetone andboil over a water bath for 2 min and Allow to cool and observe the blue color formed.

RESULT:
The present study was carried out the preliminary detection of secondary metabolite for Dolichandrone falcate (Leaf), Bryophyllum pinnatum ( Leaf), Bryophyllum pinnatum (stem), Santalum album (Bark), Santalum album (Leaf), Aegle marmelos leaf), Aegle marmelos (fruit), Chlorophyllum borivilianum (Leaf), Murraya koenigii (leaf), Hemidesmus indicus (leaf), Citrus medica (fruit coat), Citrus medica (leaf), Citrus medica (fruit juice), Justicia adhatoda( leaf), all this plant part taking fine powder to extraction were carried out Phytochemical analysis for detection Alkaloid, Steroid, Reducing Sugar, Tannin, Glycoside, Saponin, Carbohydrate, Flavonoids, Terpenoid, Amino Acid & Protein. all the 14 part of this plant and 10 test analysis result is been detected most of the Alkaloid, Reducing Sugar, Glycoside, Flavonoids, Terpenoid, Amino Acid & Protein and less amount of Steroid, Tannin, Saponin.Table no 01.(Ravikiran J Sawant, 2021)

OBSERVATION:
Table no. 01 Observation of preliminary detection of secondary metabolite

<table>
<thead>
<tr>
<th>Detection of Alkaloids( Aqueous )</th>
<th>Detection of Alkaloids (Ethanol)</th>
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<tbody>
<tr>
<td><img src="image1" alt="Image" /></td>
<td><img src="image2" alt="Image" /></td>
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<table>
<thead>
<tr>
<th>Detection of Steroids ( Aqueous )</th>
<th>Detection of Steroids(Ethanol)</th>
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<tr>
<td><img src="image3" alt="Image" /></td>
<td><img src="image4" alt="Image" /></td>
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<table>
<thead>
<tr>
<th>Detection of flavonoid ( Aqueous )</th>
<th>Detection of flavonoid (Ethanol)</th>
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<tbody>
<tr>
<td><img src="image5" alt="Image" /></td>
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<tr>
<td>Aqueous</td>
<td>Ethanol</td>
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<tr>
<td>Detection of tannin</td>
<td>Detection of tannin</td>
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<tr>
<td>Detection of reducing sugar</td>
<td>Detection of reducing sugar</td>
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<td>Detection of carbohydrate</td>
<td>Detection of carbohydrate</td>
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<tr>
<td>Detection of saponin</td>
<td>Detection of saponin</td>
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<tr>
<td>Detection of Glycosides</td>
<td>Detection of Glycosides</td>
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<tr>
<td>Detection of Terpenoid</td>
<td>Detection of Terpenoid</td>
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<tr>
<td>Sr No.</td>
<td>Plant Name</td>
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</tbody>
</table>
| 01    | Dolichandrone falcate | Leaf       | 5gm Each in 50ml Aq & Eth. | Alkaloid: - - +  + + +  
Steroid: - - +  - - -  
Reducing Sugar: - - +  - - -  
Tannin: + + +  - - +  
Glycoside: - - -  - - +  
Saponin: - + +  - - -  
Carbohydrate: - - -  - - -  
Flavonoids: - + +  - - +  
Terpenoid: + +  - - -  
Amino Acid & Protein: - + +  - - + |
| 02    | Bryophyllum pinnatum  | Leaf       | 5gm Each in 50ml Aq & Eth. | Alkaloid: - + +  - - +  
Steroid: - - -  ---  
Reducing Sugar: +++  ++++  
Tannin: ---  ---  
Glycoside: +++  ---  
Saponin: ---  ++++  
Carbohydrate: ---  ---  
Flavonoids: ---  ---  
Terpenoid: ---  ---  
Amino Acid & Protein: -++  ---  |
| 03    | Bryophyllum pinnatum  | Stem       | 5gm Each in 50ml Aq & Eth. | Alkaloid: -++  ---  
Steroid: ---  ---  
Reducing Sugar: ---  ---  
Tannin: ---  ---  
Glycoside: +++  ---  
Saponin: ---  ++++  
Carbohydrate: ---  ---  
Flavonoids: ---  ---  
Terpenoid: ---  ---  
Amino Acid & Protein: ---  ---  |
<table>
<thead>
<tr>
<th>No</th>
<th>Species</th>
<th>Part</th>
<th>Quantity</th>
<th>Alkaloid</th>
<th>Steroid</th>
<th>Reducing Sugar</th>
<th>Tannin</th>
<th>Glycoside</th>
<th>Saponin</th>
<th>Carbohydrate</th>
<th>Flavonoids</th>
<th>Terpenoid</th>
<th>Amino Acid &amp; Protein</th>
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<tbody>
<tr>
<td>04</td>
<td><em>Santalum album</em></td>
<td>Bark</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
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<td>-++</td>
<td>+++</td>
<td>+++</td>
<td>+++</td>
<td>-++</td>
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<tr>
<td>05</td>
<td><em>Santalum album</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
<td>+++</td>
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<td>-++</td>
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<tr>
<td>06</td>
<td><em>Aegle marmelos</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
<td>-++</td>
<td>++</td>
<td>-++</td>
<td>+++</td>
<td>+++</td>
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<tr>
<td>07</td>
<td><em>Aegle marmelos</em></td>
<td>Fruit</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
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<td>-++</td>
<td>+++</td>
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<tr>
<td>08</td>
<td><em>Chlorophytum borivilianum</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
<td>++</td>
<td>-++</td>
<td>++</td>
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<td>+++</td>
<td>-++</td>
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<tr>
<td>No.</td>
<td>Species</td>
<td>Form</td>
<td>Quantity</td>
<td>Alkaloid</td>
<td>Steroid</td>
<td>Reducing Sugar</td>
<td>Tannin</td>
<td>Glycoside</td>
<td>Saponin</td>
<td>Carbohydrate</td>
<td>Flavonoids</td>
<td>Terpenoid</td>
<td>Amino Acid &amp; Protein</td>
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<tr>
<td>09</td>
<td><em>Murraya koenigii</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
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<tr>
<td>10</td>
<td><em>Hemidesmus indicus</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
<td>+++</td>
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<tr>
<td>11</td>
<td><em>Citrus medica</em></td>
<td>Fruit Coat</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
<td>+++</td>
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<tr>
<td>12</td>
<td><em>Citrus medica</em></td>
<td>Leaf</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
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<tr>
<td>13</td>
<td><em>Citrus medica</em></td>
<td>Fruit Juice</td>
<td>5gm Each in 50ml Aq &amp; Eth.</td>
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DISCUSSION & CONCLUSION:
Plant having Number of ethno medicine for different parts however the present study Preliminary Phytochemical Analysis of Multiplied Medicinal Plants having great think to grown up the valuable Plants are as follow Dolichandrone falcate (Leaf), Bryophyllum pinnatum (Leaf), Bryophyllum pinnatum (stem), Santalum album (Bark), Santalum album (Leaf), Aegle marmelos (leaf), Aegle marmelos (fruit), Chlorophytum borivilianum (Leaf), Murraya koenigii (leaf), Hemidesmus indicus (leaf), Citrus medica (fruit coat), Citrus medica (leaf), Citrus medica (fruit juice), Justicia adhatoda (leaf) all this 15 part of Plant having great Phytochemical properties indicate by different chemical test for detection of Alkaloid, Steroid, Reducing Sugar, Tannin, Glycoside, Saponin, Carbohydrate, Flavonoids, Terpenoid, Amino Acid & Proteins. (Siddiqui, A. A.1997) As per the observation result is been detected most of the Alkaloid, Reducing Sugar,Glycoside, Flavonoids, Terpenoid, Amino Acid & Protein and less amount of Steroid, Tannin, Saponin. So the all degree level students carried out for the present study to getting best result to local people and Indian traditional knowledge using a delay life.

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REFERENCES: