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# Study on Qualitative and Pharmacotherapeutics properties of *Artemisia Maderaspatana L.* by various Pharmacognostical methods.

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ABSTRACT

Pharmacognostical studies of medicinal plants evolve detailed studies of plant materials based on identification, qualitative, and quantitative analysis of medicinal plants. Our aim was the Pharmacognostical studies of such type of plant that have the medicinal activities which can be applied for human being as well as insecticide. After literature review we selected *Artemisia Maderaspatana L*. is a popular Indian medicinal plant belonging to the Asteraceae family. Phytochemical study of leave extract of *Artemisia Maderaspatana L.* was done in presence of water, acetone, ethanol and chloroform. We found that Alkaloids, Flavonoids, Tannins, Saponins, Terponoids are present. Presence of Alkaloid proved that *Artemisia Maderaspatana L* is used as medicine as stimulant, diuretic and as muscle reluctant. The phytochemical constituent such as Tannins, Flavonoids, Alkaloids, are secondary metabolites which can produce defense mechanism against many microorganism and insects. So it can be used for treatment of diseases in human as well as insecticide also.

**Keywords:** *Artemisia Maderaspatana L*, stimulant, diuretic, insecticide

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## INTRODUCTION

Plants contain various bioactive compounds.[1] It contain secondary metabolites include tannins, flavonoids, alkaloids, sterols, and terrenes.[2] Due to their biological properties, they shows various therapeutic activities and produce various pharmacological actions.[3]So medicinal plants produced a great roll in global health in ayurvedic as well as other pharmaceutical fields.[4]

When insect bite occurs some poisonous material come into the blood stream and inflammation as well as muscle pain happens. Which produce more pain and fatigue also.

By various literature reviews we studied *Artemisia Maderaspatana L* belongs to Indian medicinal plants[5]. It is among the Asteraceae family[6].

The current study aim the in vitro evaluation of extracts of leaves of *Artemisia maderaspatana L.* to make experiment on ability to be used as muscle reluctant as well as insecticide by phytochemical analysis.

**Figure 1: *Artemisia Maderaspatana L***

## METERIALS AND METHOD

**Collection of plants:**

The plant *Artemisia Maderaspatana L.* collected on February 2024 from the Barmer district of Rajasthan state, India. The fresh leaves are collected.

**Drying of leaves:**

- The leaves are washed properly.
- Then drying occurs under shade for 8to10 days. and grinded to make fine grade powder.

**Extraction:**

- Solvent extraction method is used.
- Solvents; Distilled water, Ethanol, chloroform, Acetone are used with ratio.1:10 (w/v) for 72 hours. Regular shaking is done.
- Filtration is done with Whitman'sfilterpaperno.1.

**Phytochemical analysis:** [7]

Quantitative study is done by phytochemical analysis. Standard protocols are followed

**Table 1: Phytochemical analysis of *Artemisia maderaspatana L.***

| | |
|---|---|
| **Test for presence of Alkaloid.** | |
| **0.**2 ml of extracts hydrolyzed by 1% HCL is taken individually in test tube | |
| Mayer's reagent added with solution. | Crèmes precipitate are formed |
| Wagner's reagent added with solution. | Red precipitate are formed |
| Dragendorf' reagent added with solution. | Orange precipitate are formed |
| **Test for presence of Glycoside.** | |
| **0.**2 ml of extracts hydrolyzed by 1% HCL It was neutralized with NaOH | |
| Fehling's solutions are addedin1:1 ratio | Produces a red precipitate |
| **Test for presence of Flavonoid.** | |
| In a testtube10% of Lead Acetate solution is taken. Then it was added with 0.2 ml of extract. | Produce intense yellow colour and bulky white precipitate is formed |
| **Test for presence of Phenol.** | |
| In a test tube 0.2ml of 5% Ferric chloride is taken. Then 0.2ml extract's Added very slowly. | Bluish black and blue-green precipitate is formed. |
| **Test for presence of Tannin.** | |
| In a test tube 0.2ml of gelatin solution added with sodium chloride solution. Then 0.2 ml extract is added with it. | White precipitate is formed. |
| **Test for presence of Protein.** | |
| In a test tube two drops of Ninhydrin Reagent treated with 0.2 ml extract. | A purple colour is formed. |
| **Test for presence of Saponins** | |
| In a beaker 20 ml of distilled water was added with 0.5 ml extract. The solution is taken with in a graduated cylinder. Shaking was done continuously for 15 minutes. | 1to 2 cm layer of foam is generated. |
| **Test for presence of Steroid.** | |
| Ina test tube One ml acetic acid is added with 1 ml extract and one drop concentrated sulfuric acid. | It produces a red, violet, blue, or green colour precipitate is formed. |
| **Test for presence of Torpenoid.** | |
| In a test tube 2ml of Chloroform and Concentrated $H_2so_4$ was added with 0.2 ml of extract. | Reddish–brown appearance is formed. |
| **Test for Phlobatannin.** | |
| In a beaker 50 ml of distilled water is taken. Then 0.2 ml of extract is added to it. After shaking it is filtered, Then 2% HCl added and boiled | Red colour appearance is formed. |
| **Test for Leucoanthocyanin.** | |
| In a beaker 5ml of ethyl alcohol is taken. 5 ml of extract is added with it. | The upper layer changed to red color. |
| **Test for Fatty acid.** | |
| In a beaker 5ml of ether was taken. Then 5ml of extract was added to it. Then it is mixed properly and filtered. | The filter paper becomes transparent. |

| **Test for Coumadin.** | |
|---|---|
| 3ml of 10% NaOH is taken in a test tube. Then 2ml of extract was added with it. | Yellow color appearance is formed. |
| **Test for Emodin** | |
| In a test tube 2ml of ammonium hydroxy and 3ml of benzene is added with 0.2 ml extract | Red colour is generated |

## RESULTS AND DISCUSSION

**Phytochemical study of *Artemisia Maderaspatana L.***

**Table 2: Phytochemical properties of Artemisia *maderaspatana L.***

| Sr.No | Phytochemical | Water | Acetone | Ethanol | Chloroform |
|---|---|---|---|---|---|
| 1 | Alkaloid. | - | + | - | +. |
| 2 | Glycoside. | - | - | - | - |
| 3 | Flavonoid. | + | + | - | + |
| 4 | Phenol. | - | - | - | - |
| 5 | Tannin. | +. | + | + | + |
| 6 | Protein. | - | - | - | - |
| 7 | Saponins. | - | + | + | - |
| 8 | Steroid. | - | - | - | - |
| 9 | Terponoids. | + | + | - | + |
| 10 | Phlobatannins. | - | - | - | - |
| 11 | Leucoanthocyanin. | - | - | - | - |
| 12 | Fatty acid. | - | - | - | - |
| 13 | Coumarin. | - | - | - | - |
| 14 | Emodin. | - | - | - | - |

## DISCUSSION

Phytochemical study of leave extract of *Artemisia Maderaspatana L* was done in presence of water, acetone, ethanol and chloroform. We found that Alkaloids, Flavonoids, Tannins, Saponins, Terponoids are present.

## CONCLUSION

Presence of Alkaloid proved that *Artemisia Maderaspatana L* is used as medicine as stimulant, diuretic and as muscle reluctant. The phytochemical constituent such as Tannins, Flavonoids, Alkaloids, are secondary metabolites which can produce defense mechanism against many microorganism and insects. So it can be used for treatment of diseases in human as well as insecticide also.

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