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APPENDIX

Schedule adopted for collection of ethnobotaincal data of Pachaimalai hills, Eastern Gats

Date : ....................... Village : .........................
Name of Respondent : ............... Gender : Male/Female
Language : ......................... Age : ............... 

Family and background

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of individual</th>
<th>Age</th>
<th>Sex</th>
<th>Educational status</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Life style : Nomadic/semi – nomadic/permanently settled

Major family income : NTFP (Non Timber Forest Products)
Collection/labourer/farmer

Incase of NTFP :

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of the species</th>
<th>Part(s) collected</th>
<th>Amount / kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where do you sell it? : Local market/contractors/Govt.co-operative/others

What are the common ailments
Prevalent? : .............................

How do you treat your ailments? : Modern medicines/plant-medicines
If plant medicines:

Which plants do you use for medicinal purposes?

<table>
<thead>
<tr>
<th>Local name</th>
<th>Botanical name</th>
<th>Part(s) used</th>
<th>Ailments treated</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Method of preparation of medicine: Infusion/ decoction/ suspension/ powder/ juice/ paste/ raw

In what combinations these plants are used?: ..........................................................

What is the mode of administration?: Oral/ external/ inhale

Any other notes on use and preparation?: ..........................................................

Where do you collect?: From forest/ local market/ own cultivation/ from practicioners

How do you identify the medicinal plants from Natural vegetation?: Characteristics of barks/leaves/colour of flowers/fruits/any other

Do you cultivate any plant for medicinal purpose?: Yes/No

If yes : Name of plants : ..........................................................

Reason : ..........................................................

Why do you use plants as medicine?: Locally available/ cheap/ lack of transport/ lack of healthcare centre/ traditional faith

How do you preserve the medicinal plants?: Powder / dried / concentrated decoction / any other

Any formula for preservation?: Yes/ no

If yes : ..........................................................

Common knowledge on availability of medicinal plants : ..........................................................

Any important information on medicinal species : ..........................................................
LIST OF PUBLICATIONS


Phyto-Chemical Studies and In vitro Free Radical Scavenging Activity of *Swietenia mahagoni* (L.) Jacq.

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ABSTRACT

Phyto-chemical screening and free radical scavenging activity of *Swietenia mahagoni* at Pachaimalai Hills of Eastern Ghats, Tamil Nadu, India, has been studied. Field study was carried out over a period of one year. On *in vitro* studies of *S. mahagoni*, the air dried powder leaf, stem bark and fruit were extracted successively in soxhlet extractor with acetone, methanol and water. Phyto-chemical analysis for alkaloids, flavonoids, saponins, phenols, steroids, tannins, carbohydrates, proteins, amino acids and glycosides were examined qualitatively and quantitatively. Free radical scavenging activity was evaluated through DPPH method. The preliminary phytochemical screening reveals the presence of alkaloids, flavonoids, steroids and sterols, saponin, tannins, phenolic compounds, glycosides, carbohydrate, protein and amino acids. The methanol extraction was more efficient where most of the said phytochemicals were present DPPH radical scavenging activity of different solvent extracts of leaves, stem bark and fruits of *S. mahagoni* at five different concentrations (20-100µg) in the reaction mixture. All the extracts exhibited dose dependent increase in activity. The concentration of the sample extracts required to decrease initial concentration of DPPH by 50% (IC₅₀) under experimental condition has been calculated.

**Key words:** *Swietenia mahagoni*, DPPH assay, free radical scavenging activity, phytochemical.
INTRODUCTION

Medicinal plants which constitute a segment of the flora in biodiversity provide raw material for use in all the indigenous systems of medicine. According to the World Health Organization (WHO), 80% of the population in developing countries relies on traditional medicine, mostly in the form of plant derivatives to the extent of about 25%. Numerous drugs have entered the international pharmacopeia via the study of ethnopharmacology and ethnomedicine. Ethnopharmacology and ethnomedicine are interdisciplinary fields of research that looks specifically at the empirical knowledge of indigenous people concerning medicinal substances, their potential health benefits on their health risks associated with such remedies. As can be seen, many of the plant-derived pharmaceuticals and phytomedicines currently in use were used by native people around the world. Some of this knowledge has been documented and codified or studied scientifically. Also of the hundreds of thousands of species of living plants, only a fraction has been investigated in the laboratory.

There is growing interest in the pharmacological evaluation of various plants used in Indian traditional systems of medicine [1]. The present study is focused on the indigenous medicinal plant *Swietenia mahagani* (L.) Jacq. (Meliaceae), which is also known as Mahagoni tree. It has been used to reduce hypertension, diabetes, inflammation, arthritis, malaria, and epilepsy. Despite several ethnomedicinal and ethnopharmacological surveys on the therapeutic use of *Swietenia* species, a systematic pharmacological evaluation of the *S. mahagoni* is lacking.

Based on the above, the present work was carried out with the following objectives: to assess the preliminary phytochemical constituents of different solvent extract of leaf, stem bark and fruit of *Swietenia mahagani* and to evaluate the antioxidant and free radical scavenging potential of different solvent extract of leaf, stem bark and fruit of *S. mahagoni*.

MATERIALS AND METHODS

Collection and authentication of plant material

Fresh leaves, stem bark and fruits of *Swietenia mahagani* (L.) Jacq. (Meliaceae) were collected during the month of November, 2011 from Pachamalai hills of Eastern Ghats, Tamil Nadu, India. The plant material was identified and its authenticity confirmed by comparing with the voucher specimen at the herbarium of Botanical Survey of India, Southern Circle, Coimbatore, India (Fig.1)

Shade drying of the collected leaf material

Freshly collected leaf, stem bark and fruits were cleaned to remove adhering dust and then dried under shade. The dried plant materials were powdered in a Wily Mill to 60-mesh size. The leaf, stem bark and fruits powder was used for further studies.

Solvent extraction

The air dried powdered plant materials of *S. mahagoni* were successively extracted in soxhlet extractor with acetone and methanol. Each time, before extracting with the next solvent, the powdered material was dried in hot air oven at 40°C. Finally, the material was macerated using hot water with occasional stirring for 16 h and the water extract filtered. All the extracts were evaporated to remove even the final traces of the respective solvents. The percentage yields were expressed in terms of the air dried drug. All the solvent extracts were used for the in vitro studies. For in vivo studies, the shade dried and powdered leaf material was extracted in soxhlet extractor with ethanol after dewaxing with petroleum ether. The extract was evaporated to remove even the final traces of ethanol. The dried extract was suspended in distilled water right before use.
In vitro studies
Qualitative phytochemical evaluation
Phytochemical screening of different solvent extracts was carried out different methods [2 & 3].

Tests for alkaloids
Dragendorff’s reagent: To 1 mL of the extract, 1 mL of Dragendorff’s reagent was added. The appearance of orange red precipitate indicates the presence of alkaloids.

Tests for flavonoids
Shinoda test: To 1 mL of the extract, magnesium turnings and 1-2 drops of concentrated hydrochloric acid were added. Formation of pink colour indicates the presence of flavonoids.

Tests for steroids and sterols
Salkowski’s test: The extract was dissolved in 2mL of chloroform and equal volume of concentrated sulphuric acid was added along the sides of the test tube. The upper layer-turns red and lower layer turns yellow with green fluorescence, indicating the presence of the steroids and sterol compounds, in the extract.

Tests for tannins and phenolic compounds
a. To 1 mL of the extract, few mL of 5% neutral ferric chloride was added. The development of a dark bluish black colour indicates the presence of tannins.

b. To 1 mL of the extract, few mL of lead tetra acetate solution was added and the formation of precipitate indicates the presence of tannins and phenolic compounds.

c. A small quantity of the extract was dissolved in 0.5 mL of 20% sulphuric acid solution. Followed by addition of few drops of aqueous sodium hydroxide solution, it turns blue in the presence of phenols.

Test for saponins (Foam test)
About 1 mL of alcoholic extract was diluted with 20 mL of distilled water and was shaken in a graduated cylinder for 15 min. The formation of 1 cm layer of foam indicates the presence of saponins.

Tests for carbohydrates
a. Fehling’s test: Five mL of Fehling’s solution was added to 2 mL of extract and boiled in a water bath. The formation of yellow or red precipitate indicates the presence of reducing sugars.

b. Iodine test: Two mL of dilute iodine solution was added to the extract. The appearance of blue colour indicates the presence of starch.

Test for protein and amino acids
a. Biuret test: To 1 mL of extract, equal volume of 40% sodium hydroxide solution and 2 drops of 1% copper sulphate solution were added. The appearance of violet colour indicates the presence of proteins.

b. Ninhydrin test: To the extract, 2 drops of freshly prepared 0.2% ninhydrin reagent was added and heated. The appearance of pink or purple colour indicates the presence of proteins, peptides or amino acids.

Determination of total phenolics and tannins
The total phenolic content of different solvent extracts of S. mahagoni leaves, stem bark and fruit was determined [4]. Ten microlitre aliquots of the extracts (10mg/2ml) were taken in test tubes and made up to the volume of 1 ml with distilled water. Then 0.5 ml of Folin-Ciocalteu phenol reagent (1:1 with water) and 2.5 ml of sodium carbonate solution (20%) were added sequentially in each tube. Soon after vortexing the reaction mixture, the test tubes were
placed in dark for 40 min and the absorbance was recorded at 725 nm against the reagent blank. The analysis was performed in triplicate and the results were expressed as tannic acid equivalents. Using the same extracts the tannins were estimated after treatment with polyvinyl polypyrrolidone (PVPP) [5]. One hundred milligrams of PVPP was weighed into a 100 x 12 mm test tube and to this 1 ml distilled water and then 1 ml of the sample extracts were added. The content was vortexed and kept in the test tube at 4°C for 4 h. Then the sample was centrifuged (3000 rpm for 10 min at room temperature) and the supernatant was collected. This supernatant has only simple phenolics other than tannins (the tannins would have been precipitated along with the PVPP). The phenolic content of the supernatant was measured as mentioned above and expressed as the content of non-tannin phenolics (tannic acid equivalents) on a dry matter basis. From the above results, the tannin content of the sample was calculated as follows; Tannin (%) = Total phenolics (%) – Non-tannin phenolics (%).

Determination of total flavonoid content

The flavonoid content of different solvent extracts of S. mahagoni leaves, stem bark and fruit was determined by the use of a slightly modified colorimetry method [6]. A 0.5 ml aliquot of appropriately (10 mg/2 ml) diluted sample solution was mixed with 2 ml of distilled water and subsequently with 0.15 ml of 5% NaNO₂ solution. After 6 min, 0.15 ml of 10% AlCl₃ solution was added and allowed to stand for 6 min, and then 2 ml of 4% NaOH solution was added to the mixture. Immediately, water was added to bring the final volume to 5 ml, and then the mixture was thoroughly mixed and allowed to stand for another 15 min. Absorbance of the mixture was determined at 510 nm versus water blank. The analysis was performed in triplicate and the results were expressed as rutin equivalent.

Determination of in vitro antioxidant activity

Free radical scavenging activity on DPPH

The antioxidant activity of the different solvent extracts was determined in terms of hydrogen donating or radical scavenging ability, using the stable radical DPPH [7]. The sample extracts at various concentrations (20-100 μg) were taken and the volume was adjusted to 100 μl with methanol. 5 ml of 0.1 mM methanolic solution of DPPH was added and allowed to stand for 20 min at 27°C. The absorbance of the sample was measured at 517 nm. Gallic acid and BHA were used as positive control. Percentage radical scavenging activity of the sample was calculated as follows;

% DPPH radical scavenging activity = (control OD-sample OD / control OD) × 100

The analysis was performed in triplicate. The sample concentration providing 50% inhibition (IC₅₀) under the assay condition was calculated from the graph of inhibition percentage against sample concentration.

RESULTS AND DISCUSSION

Phytochemical screening

To investigate the chemical constituents of S. mahagoni leaves, stem bark and fruits, the successive solvent extracts were subjected to qualitative phytochemical screening. The preliminary phytochemical screening reveals the presence of alkaloids, flavonoids, steroids and sterols, saponin, tannins, phenolic compounds, glycosides, carbohydrate, protein and amino acids. The methanol extraction was more efficient where most of the said phytochemicals were present (Table 1).

DPPH radical scavenging activity of S. mahagoni

The DPPH radical is a stable organic free radical which has been extensively used for evaluating the free radical scavenging potential of natural antioxidants. Table 2 and Fig. 2 illustrate the DPPH radical scavenging activity of different solvent extracts of leaves, stem bark and fruits of S. mahagoni at five different concentrations (20-100μg) in the reaction mixture. All the extracts exhibited dose dependent increase in activity. The concentration of the sample extracts required to decrease initial concentration of DPPH by 50% (IC₅₀) under experimental condition has been
Amarasuriyan et al.

calculated. A lower IC₅₀ indicates higher antioxidant activity. The higher DPPH radical scavenging activity was shown by methanol extract of the stem bark with an IC₅₀ of 24.76 ± 0.09 µg/ml followed by the water extract (26.65 ± 0.07 µg/ml) of leaf powder. Water extract of the fruit powder showed the lowest DPPH radical scavenging activity with an IC₅₀ of 124.74 ± 0.90 µg/ml. However, all the tested extracts exhibited lesser hydrogen donating ability than the positive standards gallic acid (IC₅₀ 3.40 ± 0.32 µg/ml) and BHA (IC₅₀ 5.20 ± 0.26 µg/ml).

CONCLUSION

In this study free radical scavenging activity was evaluated through DPPH method. The preliminary phytochemical screening reveals the presence of alkaloids, flavonoids, steroid and sterol, saponin, tannin, phenolic compounds, glycosides, corophydrate, protein and amino acids. The qualitative phytochemical evaluation of different solvent extracts of S. mahagoni reveals the presence of various compounds. However the components responsible for the radical scavenging activities of the extracts are known. Therefore future research is needed for the isolation and identification of the active components in the extracts.

REFERENCES


Figure 1. Swietenia mahagoni (L.) Jacq. Plant.
Figure 2. IC₅₀ of different solvent extracts of *S. mahagoni* leaf, stem bark and fruit on DPPH radical
Values are means of three independent analyses ± standard deviation (n = 3). BHA - Butylated hydroxyanisole; GA - Gallic acid.

Table 1. Qualitative phytochemical evaluation of different solvent extracts of *S. mahagoni*.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Extract</th>
<th>Phytochemical tests</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Alkaloids</td>
</tr>
<tr>
<td>Leaf</td>
<td>Acetone extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Methanol extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Water extract</td>
<td>+</td>
</tr>
<tr>
<td>Stem bark</td>
<td>Acetone extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Methanol extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Water extract</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>Acetone extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Methanol extract</td>
<td>+</td>
</tr>
<tr>
<td></td>
<td>Water extract</td>
<td>+</td>
</tr>
</tbody>
</table>

‘+’ - Presence of compounds; ‘−’ – Absence of compounds.
Table 2. DPPH radical scavenging activity of different solvent extracts of *S. mahagoni*.

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Concentration (µg)</th>
<th>Percentage activity</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Leaf</td>
<td>Stem bark</td>
<td>Fruit</td>
<td></td>
</tr>
<tr>
<td>Acetone extract</td>
<td>20</td>
<td>9.62 ± 0.51</td>
<td>15.52 ± 1.08</td>
<td>5.56 ± 0.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>18.48 ± 0.53</td>
<td>29.17 ± 0.49</td>
<td>10.61 ± 0.19</td>
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</tr>
<tr>
<td></td>
<td>60</td>
<td>26.85 ± 0.91</td>
<td>42.37 ± 0.18</td>
<td>15.57 ± 0.32</td>
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</tr>
<tr>
<td></td>
<td>80</td>
<td>36.96 ± 0.58</td>
<td>56.68 ± 0.25</td>
<td>20.28 ± 0.46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>45.98 ± 0.62</td>
<td>70.37 ± 0.30</td>
<td>25.41 ± 0.46</td>
<td></td>
</tr>
<tr>
<td>Methanol extract</td>
<td>20</td>
<td>12.95 ± 0.17</td>
<td>16.35 ± 0.24</td>
<td>12.38 ± 1.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>24.72 ± 0.86</td>
<td>33.98 ± 1.21</td>
<td>26.05 ± 0.69</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>35.46 ± 0.97</td>
<td>48.05 ± 0.30</td>
<td>36.24 ± 1.24</td>
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</tr>
<tr>
<td></td>
<td>80</td>
<td>49.21 ± 0.97</td>
<td>64.32 ± 0.61</td>
<td>49.95 ± 1.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>59.96 ± 0.77</td>
<td>80.60 ± 0.30</td>
<td>60.88 ± 0.80</td>
<td></td>
</tr>
<tr>
<td>Water extract</td>
<td>20</td>
<td>15.47 ± 0.57</td>
<td>9.83 ± 0.54</td>
<td>3.68 ± 0.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40</td>
<td>31.32 ± 0.56</td>
<td>20.27 ± 0.83</td>
<td>7.07 ± 0.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>45.36 ± 0.36</td>
<td>30.68 ± 1.21</td>
<td>9.52 ± 0.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>59.78 ± 0.45</td>
<td>51.58 ± 1.61</td>
<td>13.21 ± 0.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>74.53 ± 0.45</td>
<td>50.84 ± 0.63</td>
<td>15.58 ± 0.26</td>
<td></td>
</tr>
</tbody>
</table>

Values are means of three independent analyses ± standard deviation (n = 3).
Traditional Herbal Remedies Among the Tribes of Malayali of Pachaimalai Hills of Eastern Ghats, Trichirappalli District, Tamilnadu

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Abstract
The Paper deals with the ethno-medico-botany of plant species Pachaimalai hills of Eastern Ghats, Tiruchirappalli District, Tamilnadu. Information on economic and medicinal utilization of plant species including their family, vernacular name and parts used for the treatments have been presented. The paper deals with the selected indigenous medicinal plant namely Swietenia Mahagoni (L.) Jacquin (Meliaceae) among the local people of the malayali tribe on the basis of wider use for different ailments.

Keywords: Ethno-medico-botany, herbal remedies, Pachaimalai Hills, Swietenia mahagoni.

Introduction
The wonderful Flora and Fauna of the Indian Forests particularly the forests of Tamilnadu is the source of research in the ethnobotanical field. Therefore, documentation of traditional knowledge and ethnobotanical information play an important role in scientific research (Awadh et al., 2004). The term ethnobotany was first introduced by the American botanist John Harshberger in 1896 as ‘the study of plant use by humans’. Ethnobotany studies the relationship between human and plants in all its complexity and is generally based on a detailed observation and study of the use of a society made of plants. Because plants play an important role in almost every realm of human activity Ethnobotany focuses not only on medicinal plants, but also on other natural products derived from nature, such as: food, plants used in rituals, coloring agents, fiber plants, poisons, fertilizers, building materials for houses, household items, boat, etc.

Herbal medicine is the oldest form of health care known to humanity and has been used in all cultures throughout history. In this regard India has a unique position in the world, where a number of recognized indigenous systems of medicine viz., Ayurveda, Siddha, Unani, Homeopathy, Yoga and Naturopathy are utilized for the health care of people. Thus the dependence of human beings on plants dates back to the very origin of human race and perhaps the first knowledge early man had acquired about plant was by sheer necessity, observation and experimentation which in course of time evolved into a special branch called ‘Ethnobotany’.

Ethnobotany encompasses many fields including botany, biochemistry, pharmacognosy, toxicology, medicine, nutrition, agriculture, ecology, evolution comparative religion, sociology, anthropology, linguistics, cognitive studies, history and archeology, etc.

Materials and Methods
Study area
The Pachaimalai Hills is a major range of forest in the Eastern Ghats, rich in bio-diversity and tribal populations. It is located in the Trichirappalli District, Perambalur District and
Salem District of Southeasten Tamilnadu. Particularly there are so many Tribal villages like Chittoor, Thanneerpandal, Chemmathi, around Top Senkattupatti.

Ethnobotanical studies

In the present study an intensive survey was made field survey was mad in Top Senkattupatti, Pachaimalai Hills, Tamilnadu. The data were collected from traditional healers. An extensive field survey was conducted in Top Senkattupatti to collect information about ethnomedicinal plants used by the tribals. The Data on the local names of the plants, medicinal use(s), part(s) used, other ingredients if any, added, mode of preparation and administration were collected. Collection of ethnobotanical plants, identification and preservation

Representative samples of all medicinal species collected from the study area were preserved as herbarium as per standard methods (Jain and Rao, 1976, Rao and Sharma, 1990). Preliminary identification of the plant species was done with the help of regional floras (Hooker, 1885-1899; Gamble, 1915-1936; Mathew, 1983). The authentic identification and confirmation of names were done by comparing with type specimens deposited in the Botanical Survey of India, southern circle, Coimbatore.

Results

The common medicinal plants were surveyed in the study area and tabulated (Table 1). In the present study, 92 species of plants included 87 genera and 49 families were recorded.

I selected one such medicinal plant species Swietenia mahagoni (L.) Jacq. (Meliaceae), in my research area. The morphological characters of various parts of selected plant was studied from freshly collected plant with the help of binocular dissection microscope.

Discussion

The tribal people preferred to use a diversity of native plant with medicinal utility. During the study a total of 92 species distributed among 87 genera belonging to 49 families used in the treatment of cracks and wounds were identified and the plants have been collected in their flowering and fruiting stages as far as possible from the natural habitat. As far as plant part utility is concerned, leaves are used commonly, followed by stem bark and seeds (Figure 1).

The present study perceived that the local people always prefer single plant to treat tumor, wounds and cracks. The different parts of the same plant are used to make better acceptability of herbal remedies that are taken orally.

Conclusion

This study depicts that traditional knowledge and folk information form the basis for the treatment of various diseases among the tribals so they called Malayalis. From the interview conducted with the tribal informants it is clear that Malayali tribal posses innate ability to discern the character of plants and exploit the plant resources to meet their healthcare needs. The most important aspect of the Malayali tribal medicine is the fresh plant material used for the preparation of medicines. Still this old age practice forms the basic aspect of their life style and rituals. Alternatively if the fresh plants are not available dried plant materials are used. For this reason general plants serve as alternative remedy to cure a single disease. Present study focuses on the medicinal plants which continue to play a major role in healthcare needs of Malayali community and it will lead to further ethnobotanical research.
## Table 1: Ethnomedicinal plants of Pachamalai Hills, Eastern Ghats.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Vernacular Name</th>
</tr>
</thead>
<tbody>
<tr>
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References


* Author for correspondence