ABSTRACT
The present study deals with pharmacognostic, preliminary photochemical and pharmacological investigations of Achyranthes aspera. In this, pharmacognostical studies are concerned for the determination of physicochemical constants like ash values, extractive values, and loss on drying. The roots were subjected to soxhlation using petroleum ether, alcohol, water and the extracts thus obtained were studied for preliminary photochemical screening for detection of presence of various classes of chemical principles viz., carbohydrates, proteins, steroids, glycosides, alkaloids, tannins, saponins, flavonoids and lignin. Pharmacological studies were carried out to evaluate acute oral toxicity and anti microbial activity. The results obtained in the present investigation reveal that one or more extracts of A.aspera has shown anti cancer, anti diabetic, anti inflammatory, anti spasmodic, anti bacterial, diuretic and antileprotic activities.

key words: Achyranthes aspera, pharmacognosy, phytochemistry, pharmacological, Anti inflammatory, Diuretic.

INTRODUCTION
The dried roots were obtained from the plant Achyranthes aspera Linn; Family: Amaranthaceae is known by other names: Uttaranee, Kadaladi, Aghada, Kutri, Nayuruvu, Antisha is found in ever green forest of Western Ghats mainly seen in south kerala and southern part of Tamilnadu. Compounds in the seeds of A.aspera are the saponins A and B. Anti inflammatory activity of root of A.aspera were reported by Sankar et al (2009) and other pharmacological activities like anticancer, diuretic, anti leprotic, anti asthamatic were also reported in the profile of A.aspera Linn. Spermicidal action of a protein isolated from anetholic root extracts of A.aspera. Hypoglycemic effect of A.aspera was evaluated in normal and alloxan –diabetic rabbits by Akthar MS, Iqbal J (1991).

TABLE 1 Foaming index of the powdered root of A.aspera.

<table>
<thead>
<tr>
<th>S.NO.</th>
<th>Test volumetric flask no.(10 ml)</th>
<th>Height of foam(cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td>0.2</td>
</tr>
<tr>
<td>2.</td>
<td>2</td>
<td>0.3</td>
</tr>
<tr>
<td>3.</td>
<td>3</td>
<td>0.5</td>
</tr>
<tr>
<td>4.</td>
<td>4</td>
<td>0.6</td>
</tr>
<tr>
<td>5.</td>
<td>5</td>
<td>0.6</td>
</tr>
<tr>
<td>6.</td>
<td>6</td>
<td>0.8</td>
</tr>
<tr>
<td>7.</td>
<td>7</td>
<td>0.8</td>
</tr>
<tr>
<td>8.</td>
<td>8</td>
<td>0.8</td>
</tr>
<tr>
<td>9.</td>
<td>9</td>
<td>0.9</td>
</tr>
<tr>
<td>10.</td>
<td>10</td>
<td>0.9</td>
</tr>
</tbody>
</table>
like touch, texture etc. Microscopic features of A.aspera secondary phloem and secondary xylem were observed. Powder microscopy of root consists of fibers, vessel elements and xylem parenchyma.

Preliminary phytochemical evaluation: Total ash value, acid insoluble ash value, water soluble ash value, sulphated ash value, extractive values-alcohol soluble extractive value, water soluble extractive value (Table no.3), Loss on drying, foaming index (Table no.1) were determined by standard procedures and results were tabulated in table no.2.

Preliminary Phytochemical Analysis: Powdered roots of A.aspera were subjected to various qualitative tests for the identification of phytochemical constituents includes tests for alkaloids (Dragendorff’s test, Mayer’s test, Hager’s test, Wagner’s test), Saponins, glycosides (Legal’s test, Baljet’s test, Kellar-Killiani test, Borntrager’s test), Carbohydrates (molish test, Fehling’s test), tests for tannins, Flavonoids, Steroids (Liebermann–Burchardtest, Salkowski test), Proteins (Biurette test, Ninhydrin test, Xanthoprotein test, Millon’s test), Phytosterols, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.

Pharmacological evaluation: Acute oral toxicity was evaluated which involves the identification or calculation of doses level that become evidence for non lethal toxicity which gives clear signs and symptoms of toxicity of a test drug or substance also provide information about LD50. Antimicrobial activity was evaluated to prevent the growth of microbes. Antibacterial studies were carried out by disc diffusion method and diameter of zone of inhibition is measured. Antibacterial aqueous extract of A. aspera was also performed. Strains used as gram positive micro organism for anti bacterial studies are Staphylococcus aureus, Streptococcus fecalis, Escherichia .coli, Saponins, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.

Pharmacological evaluation: Acute oral toxicity was evaluated which involves the identification or calculation of doses level that become evidence for non lethal toxicity which gives clear signs and symptoms of toxicity of a test drug or substance also provide information about LD50. Antimicrobial activity was evaluated to prevent the growth of microbes. Antibacterial studies were carried out by disc diffusion method and diameter of zone of inhibition is measured. Antibacterial aqueous extract of A. aspera was also performed. Strains used as gram positive micro organism for anti bacterial studies are Staphylococcus aureus, Streptococcus fecalis, Escherichia .coli, Saponins, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.

Pharmacological evaluation: Acute oral toxicity was evaluated which involves the identification or calculation of doses level that become evidence for non lethal toxicity which gives clear signs and symptoms of toxicity of a test drug or substance also provide information about LD50. Antimicrobial activity was evaluated to prevent the growth of microbes. Antibacterial studies were carried out by disc diffusion method and diameter of zone of inhibition is measured. Antibacterial aqueous extract of A. aspera was also performed. Strains used as gram positive micro organism for anti bacterial studies are Staphylococcus aureus, Streptococcus fecalis, Escherichia .coli, Saponins, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.

Pharmacological evaluation: Acute oral toxicity was evaluated which involves the identification or calculation of doses level that become evidence for non lethal toxicity which gives clear signs and symptoms of toxicity of a test drug or substance also provide information about LD50. Antimicrobial activity was evaluated to prevent the growth of microbes. Antibacterial studies were carried out by disc diffusion method and diameter of zone of inhibition is measured. Antibacterial aqueous extract of A. aspera was also performed. Strains used as gram positive micro organism for anti bacterial studies are Staphylococcus aureus, Streptococcus fecalis, Escherichia .coli, Saponins, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.

Pharmacological evaluation: Acute oral toxicity was evaluated which involves the identification or calculation of doses level that become evidence for non lethal toxicity which gives clear signs and symptoms of toxicity of a test drug or substance also provide information about LD50. Antimicrobial activity was evaluated to prevent the growth of microbes. Antibacterial studies were carried out by disc diffusion method and diameter of zone of inhibition is measured. Antibacterial aqueous extract of A. aspera was also performed. Strains used as gram positive micro organism for anti bacterial studies are Staphylococcus aureus, Streptococcus fecalis, Escherichia .coli, Saponins, gums and lignin were performed by using specific reagent and results were tabulated in table no.3.
culture media for the growth of bacteria were nutrient agar medium (beef extract, peptone, sodium chloride) and nutrient broth medium (beef extract, peptone, distilled water) at pH 7 and values were tabulated in table no.4.

RESULTS AND DISCUSSION
A.aspera has been investigated, identified and rationalized by using pharmacognostical, photochemical and antimicrobial activity.

a) Pharmacognostic evaluation: The macroscopic and microscopic studies of roots of A.aspera were investigated and reported. Macroscopic observation of root system and root surface were carried out. Secondary phloem and secondary xylem were studied by microscopic evaluation. Powder microscopy consists of fibers, vessel elements and xylem parenchyma. Ethanolic extract of A.aspera at a concentration of 1% significant antibacterial activity.

CONCLUSION
The photochemical investigation showed the presence of alkaloids, glycosides, proteins, free amino acids, lignin, carbohydrates, flavonoids, tannins and a phenolic compound were identified and anti microbial activity was identified. Further studies are required to isolate and characterize the active principle of A.aspera which have anti microbial activity.

REFERENCES