

## **SUMMARY OF THE FINDINGS**

### **UGC - MINOR RESEARCH PROJECT**

Project title: “Phytochemical studies of medicinally useful alkaloids and steroids in selected species of Solanaceae family”.

UGC Approval No. and Date: **MRP(S) –913/10–11/KLKE009/UGC–SWRO–dt.10 - 2 - 2011.**

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Tenure of the Project: **18 Months**

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The present study on the topic ‘Phytochemical studies of medicinally useful alkaloids and steroids in selected species of solanaceae family’ was a screening experimental study of the plant extracts of the six members of Solanaceae. Commonly available members were selected for the screening of phytochemical constituents. The study materials were *Datura metel*, *Physalis angulata*, *Brugmansia suaveolens*, *Cestrum nocturnum*, *Solanum torvum*, *Solanum melongena*. Plant extracts were prepared in ethanol, methanol and chloroform: methanol: ammonia. Extracts tested for alkaloids, steroids, tannin, flavanoids and saponin content. Pure alkaloids extracted and estimated. TLC plates prepared and compared. TLC for sterols also prepared. Confirmatory test was done for the Hyoscine content of the extracts. Hyoscine content was noted in all the extracts studied. HPTLC studies were done with the extracts and pure alkaloids extracted. Similar type of alkaloids identified for the extracts and alkaloids. Percentage of alkaloids studied from the extracts of all plants.

In all the samples studied, the Hyoscine content was high. An average of 0.3 to 0.4 mg of Hyoscine was noted in 1 gm of crude extract. In the present study stem powder of

the plants were used. In earlier studies, they used roots and noted the alkaloid content. But present study revealed the occurrence of alkaloids in stem. The occurrence of Hyoscine in *Solanum melongena*, *Cestrum nocturnum* and *Physalis angulata* is a new report. These are all locally available and there is low cost for collecting from field. *Physalis* is a weed found in all localities, *Melongena* is cultivating for their fruits. *Cestrum* is a garden plant. So material is available in all climate and all localities. Hyoscine content is high in all these plants selected for the studies. The average value of 1 gm of hyoscine in market is 5725/-. Steroids also found in all plant extracts studied. Each sample had more than one type of steroids. HPTLC studies of pure alkaloids revealed the occurrence of three peaks of alkaloids indicates the presence of more alkaloids in each sample studied.

Hyoscine can extract in large scale from the weed plants like *Physalis*, *Solanum torvum* and also from *Solanum melongena*, *Brugmansia suaveolens*. This wild shrubs show the presence of Hyoscine in its stem extracts. *Datura metel*, *Cestrum nocturnum* also shown similar results.

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