

Phytochemical Analysis of Some Solanaceous Plants of Chandigarh

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Abstract : Plants are the source of herbal medicine and medicinal value of the plants lies in the bioactive phytochemical constituents that produce definite physiological effects on human body. Angiospermic families are known to produce such phytochemical constituents which are termed as secondary plant metabolites. These metabolites include alkaloids, saponins, phenolic compounds, flavonoids, tannins, terpenoids and so on. Solanaceae is one of the important families of Angiosperms known for medicinally important alkaloids such as hyoscyamine, scopolamine, solanine, nicotine, capsaicin etc. Medicinally important species of this family mostly belong to the genera of Datura, Atropa, Solanum, Withania and Nicotiana. Six species such as Datura metel, Solanum torvum, Physalis minima, Cestrum nocturnum, Cestrum diurnum and Nicotiana plumbaginifolia have been collected from different localities of Chandigarh and adjoining areas. Field and anatomical studies helped to identify the plants and their parts used for the study of secondary plant metabolites. Preliminary phytochemical studies have been done on various parts of plants such as roots, stem and leaves by making aqueous and alcoholic extracts from their powdered forms which showed the presence of alkaloids in almost all the species followed by steroids, flavonoids, terpenoids, tannins etc. HPLC profiles of leaves of Datura metel showed the presence of active compounds such as scopolamine and hyoscyamine and Solanum torvum showed the presence of solanine and solasodine. These alkaloids are important source of drug based medicine used in pharmacognosy. The respective compounds help in treating vomiting, nausea, respiratory disorders, dizziness, asthma and many heart problems.

Keywords : alkaloids, flavanoids, phytochemical constituents, pharmacognosy, secondary metabolites

Conference Title : ICMPNP 2016 : International Conference on Medicinal Plants and Natural Products

Conference Location : London, United Kingdom

Conference Dates : February 25-26, 2016