PHYTOCHEMICAL SCREENING OF BIOACTIVE COMPOUNDS FROM *SPHAGNETICOLA TRILOBATA* BY GC-MS ANALYSIS

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ABSTRACT

In the last few decades, pharmacological investigation studies have been intensively acknowledged to reveal the value of medicinal plants as potential medicines. A wide range of phytochemicals used to treat chronic, acute and many infectious diseases. The secondary metabolites from the various parts of root, leaf, fruit and seed are known for its medicinal values in many pharmaceutical industries. In the present investigation, phytochemical screening of bioactive compounds from *Sphagneticola trilobata* was carried out by GC-MS. The various parts of the plant revealed ten, seven and eleven phytochemicals in leaf, stem and flower, respectively during the study period.

Keywords: Phytochemicals, GC-MS, methanol, bioactive compounds, therapeutic.

INTRODUCTION

Ever since ancient times, various parts of parts or phytochemicals were used as medicines, supplements in various industrial sectors [1-3]. Around 2,500 medicinal plants are used commercially in various sectors in India [4,5] and it is also recorded that more than 6000 species have valued therapeutically [6,7]. The phytochemicals are chemicals developed in plants naturally and are recorded to be biologically significant but are not recognized essential nutrients [8,9]. Around 0.126% of million species of India are very popularized in world biodiversity (8%) [10,11]. The leaves and barks of *Ficus racemosa* are effective remedy in glandular swelling, cervical adenitis, haemoptysis and chronic wounds [8,12]. In recent years, the phytochemicals have taken tremendous interest in prevention of diseases, therapy, pharmacological activities [13, 14]. *Echninops* plant has been reported to contain phytochemicals such as alkaloids, lipids, steroids, polysteroids, polyacetylenes, terpenoids, flavonoids [15,16] and they are found to be very effective as antibacterial [17], antioxidant fruits of *Penincosa hispida* are used for treatment of epilepsy and nervous disorders [19] and the preliminary phytochemical studies revealed the whole plant has an important medicinal value [20]. In the present investigation, an attempt has been made to screen for phytochemicals of *Tecoma stans* by GC MS analysis.

MATERIALS AND METHODS

Disease free fresh *Sphagnticola trilobata* were collected, cleaned, segregated into various parts such as leaves, stem and flowers, air dried for few weeks. After assuring total dryness, the segregated plant parts were ground to fine powder using a blender and the powdered samples were stored in a air tight containers for future investigation. The methanolic leaf, stem and flower extracts were subjected to Gas chromatography Mass spectrometry (GC-MS) using GC-MS QP-2010 [Shimadzu, Tokyo, Japan] model with column length (30 mm) and diameter of 0.25 mm.

RESULTS AND DISCUSSION

The methanolic leaf extract of *Sphagneticola trilobata* registered ten, stem with seven and flower with eleven different bioactive compounds, respectively. The leaf sample registered Tricyclo (1,6 Undecan-3-ol), 3,6-Non adienedioic acid, 5 hexanoic acid, 3, Eicosene, 12-Nonadecatriene, 3-Triazole, Pentadecanoic acid, 1-tetradecanoyl naphthalene-2-ol, 10-dodecon-

1-ol and retinoic acid, The maximum registered ions was 226 in 12 non adecatriene and the least was registered in 3-Eicosene with 121 ions during the period of study. The methanolic extracts of leaf and flower samples of *Tagetes erecta Linn.* Revealed nineteen and thirty one chemical compounds [21],

In the present investigation, around seven phytochemicals were identified from methanolic extract of stem of *S trilobata*, The maximum retention time was observed with pimaric acid (22,17) with 267 ions and the minimum retention time was observed with Indecan I (13.33) with 196 ions. The other phytochemicals were retinoic acid (21.03 retentiontime with 222 ions), 15-Heptadecadiene (18. 87 retention time with 222 ions), Indecan-1-one (13.33 retention time with 196 ions), 3-Adamantan 2-Yliden methoxylmethyl-phenol (17.18 retention time with 226 ions), 1-Cyclohexan-l-yl (18.12 retention time with 138 ions), 5,19-cyclo-5a-androset-6-one (19.87 retention time with 234 ions) and Pimaric acid (22.17 retention time with 267 ions). The GC-MS report of *Alseadaphne semecarpifolia* leaf extract revealed fifty phytochemicals and the major constituent was N-Methyl pyrrole which is known for its excellent antioxidant property [22]. *Alseodaphne* species are rich in aporphinis, benzylisequinolines, morphinandienones, neolignans and protoamines [23,24].

The first phytochemical registered in the methanolic flower extract was 8- Octadecanone followed by Pentadeconoic acid, 5-a androstone, 2-cylo pentene-1- carboxylic acid, N-(3-Azepan 1-yl-1,4 dioxo-1,4-dihydro-napthalene-2-yl, 1,3-cyclotetradecanediane, Hydroxy andaracapimaric acid, 2,3 Di (2,2 dimethyl ethyl thiophene 1,1,4 Benzyloxy phenyl acetone), Cyclohexane carboxyolic acid and 7-Octadecynoic acid, respectively.The maximum retention time of 23.77 was registered in 1,3-Cyclotetradecanedione and the minimum of 11.63 was recorded by Benzyloxy phenyl acetone during the period of study. The methanolic extract of *Kedrostis foetidissima* (*Jacq.) Cogn.* revealed the presence of alkaloids, flavonids, phenols, tannins, steroids, saponins, triterpenoids and tannins [25].

CONCLUSION

The GC-MS results of *S. trilobata* in the present investigation revealed that the various parts of the plant is of medicinal value and the phytochemicals isolated has a high therapeutic value in the pharmaceutical industries. The commercial availability of these compounds are numerous and they are notable in the medical field.

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