

GC-MS Analysis of Bioactive Compounds in the Ethanolic Extract of Nest Material of Mud Wasp, *Sceliphron caementarium*

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Abstract : This research was designed to determine the bioactive compounds present in the nest samples of the mud dauber wasp, *Sceliphron caementarium*. Insects and insect-based products have been used for the treatment of various ailments from a very long time. It has been found that all over the world including the western societies and the indigenous populations, the usage of insect-based medicine plays an important role in various healing practices and magic rituals. Studies on the therapeutic usage of insects are negligible when compared to plants, the. In the present scenario, it is important to explore bioactive compounds from natural sources rather than depending on synthetic drugs that have adverse effects on human body. Keeping this in view, an attempt was made to analyze and identify bioactive components from the nest sample of the mud dauber wasp, *Sceliphron caementarium*. The nests of the mud dauber wasp, *Sceliphron caementarium* were collected from Coimbatore, Tamil Nadu, India. The nest sample was extracted with ethanol for 6-8 hours using Soxhlet apparatus. The final residue was obtained by filtering the extract through Whatman filter paper No.41. The GCMS analysis of the nest sample was performed using Perkin Elmer Elite - 5 capillary column. The resultant compounds were compared with the database of National Institute Standard and Technology (NIST), WILEY8, FAME. The GC-MS analysis of the concentrated ethanol extract revealed the presence of eight constituents like Methylene chloride, Eicosanoic acid, 1, 1':3', 1''-Terphenyl, 5'-Phenyl, Di-N-Decylsulfone, 1, 2-Bis (Trimethylsilyl) Benzene, Androstane-11, 17-Dione, 3-[(Trimethylsilyl) Oxy]-, 17-[O-(Phenylmethyl) O. Most of the identified compounds were reported as having biological activities viz. anti-inflammatory, antibacterial and antifungal properties that can be of pharmaceutical importance and further study of these isolated compounds may prove their medicinal importance in future.

Keywords : *Sceliphron caementarium*, Gas chromatography-mass spectrometry, ethanol extract, bioactive compounds

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