

International Conference on  
**NUTRITION & OBESITY PREVENTION**

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International Conference on  
**GLOBAL MEDICINAL CHEMISTRY & GPCR SUMMIT**

October 01-02, 2018

Las Vegas, USA

### Antimicrobial activity of *Sonchus arvensis*

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*Sonchus arvensis* (Asteraceae) is an annual plant that is easy to grow in rainy and sunshine areas, such as on riverbanks, ridges of rice field. *S. arvensis* is one of the medicinal herbs used in traditional medicines, in which the leaf extract was used as a diuretic, lithotriptic and anti urolithiasis agent; also indicated for fever, poisoning and swelling or abscess. The plant is valued as a delicious and nutritional herb and has been used for the treatment of caked breasts, asthma, coughs, and other chest complaints and for calming the nerves. The fresh root of *S. arvensis* crushed and hydrodistilled for extraction of essential oil. The chemical composition of the essential oil obtained from the root of *S. arvensis* with yield of 0.18% (w/v), was analyzed by the GC and GC-MS. A total of 15 components, representing

97.2% of the oil, were identified. The oil composition is dominated by the presence of aromatic hydrocarbons accounting for 43.55% while as sesquiterpenes constitute 15.66% of the total oil composition. The principal components found was 9, 10-Dithiaanthacene constitute 43.55% of the total volatile constituents. Main identified constituents were  $\beta$ -Patchoulene (4.80%), Caryophyllene oxide (9.93%), Caryophyllene (4.24%), and  $\beta$ - Eudesmol (4.98%). The antibacterial activity of the volatile oils tested was more pronounced against Gram- positive than against Gram-negative bacteria. In conclusion, to the best of our knowledge the essential oil composition and its antimicrobial activity of the roots of *S. arvensis* is the first report.

### Biography

Mahesh Pal got Ph.D. Degree of Plant Natural Product Chemistry in 1998 from CSIR-Central Institute of Medicinal and Aromatic Plants, Lucknow, India and Postdoctoral studies from State Key Laboratory of Phytochemistry and Plant Resources in West China, Kunming Institute of Botany Kunming, China. He is working as Principal Scientist in Phytochemistry Division at CSIR-National Botanical Research Institute, a premier Government organization, Lucknow, India. He have published more than 65 research papers in reputed journals and have been serving as an editorial board member of ten reputed journals. Currently He is working in isolation and identification of bio-molecules for anticancer, antidiabetic and antimicrobial activity from Indian medicinal Plants.

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