





I. INTERNATIONAL CONGRESS ON MEDICINAL AND AROMATIC PLANTS "NATURAL AND HEALTHY LIFE"

TABKON' 17



BOOK OF ABSTRACTS



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COMPOSITION AND ANTIMICROBIAL ACTIVITY OF THE ESSENTIAL OIL OF ONOSMA MALATYANA BINZET FROM TURKEY

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ABSTRACT

Onosma malatyana Binzet is an endemic species growing in Turkey. This work aimed to investigate to chemical composition of essential oils obtained from Onosma malatyana Binzet roots and their antimicrobial activities against Staphylococcus aureus (ATCC 25923), Streptococcus pneumoniae (ATCC 10353), Bacillus subtilis (ATCC 6633), Enterococcus faecalis (ATCC 29212), Escherichia coli (ATCC 25922), Pseudomonas aeruginosa (ATCC 25853), Candida albicans (ATCC 10231) and Candida glabrata (ATCC 4322). The essential oils from roots were obtained two different methods, which are hydrodistillation and Soxhlet extraction. Soxhlet extraction was carried out in three solvents with different polarities such as petroleum ether, methanol and ethyl acetate. The essential oils and volatile components of roots were identified by Gas chromatography-mass spectrometry system. We used the Kovats indices, mass spectra and standard compounds to determination of essential oils. The major constituents were: for hydrodistillation, abietatriene (16.97%), manool (15.44%), (Z,Z)-10,12-hexadecadienyl acetate (12.42%), geranyl acetone (9.06%); for Soxhlet extraction in petroleum ether, 2-isopropyl-1H-permidine (21.26%), eicosanal (11.84%), sertindole (8.32%); for Soxhlet extraction in methanol, isopimpinellin (15.91%), methyl dihydromalvalate (12.00%), butanoic acid (8.87%), palmitin,2-mono- (8.00%), 2-propylfuran (7.63%); and for Soxhlet extraction in ethyl acetate, xanthatin (15.28%); manool (12.60%). Furthermore, the antimicrobial activity of the extracts was evaluated using modification microdilution methods. According to the antimicrobial results, all extracts were more susceptible to Candida albicans. Acknowledgement: This study was supported by the Research Fund of Mersin University in Turkey with Project Number: 2015-AP3-1199.

KEYWORDS

Onosma, Essential oil, Soxhlet extraction, hydrodistillation extraction, Antimicrobial activity.

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