

Antimicrobial activity and chemical composition of oils of *Juniperus excelsa* Bieb (Cupressaceae) grown in R Macedonia

Berenike Axios

Department of Goce Delcev University, Faculty of Medical Sciences, Stip, North Macedonia.

Commentary

Juniperus is one among the main genera of family Cupressaceae family consisting of roughly seventy species. *Juniperus excelsa* Bieb. is massive ligneous plant or tree, unfold chiefly throughout the Japanese Mediterranean ranging from north-eastern Ellas and southern Balkan nation across Turkey to the Middle-East countries (Syria and Lebanon) and also the mountain range. It happens in Persia, Pakistan and Sultanate of Oman similarly [1]. The plant is understood as Greek juniper, that seems as male and feminine plants, even some people may manufacture each sexes. 2 main race of *J. excelsa* area unit renowned, subsp. *excelsa* (Greek juniper) and subsp. *polycarpus* (Persian juniper). Only subsp. *excelsa* is gift in Macedonian flora and is unfold throughout the full territory of Republic of Macedonia (RM), however principally in southern a part of the country. The *Juniperus* species area unit characterised by great amount of oil in berries and needles similarly as in wood and seed. within the last decade the composition of the berries essential oils of each *J. excelsa* race, *excelsa* and *polycarpus*, was investigated and a few knowledge were printed recently. The berries oil of subsp. *excelsa* is characterised by presence of terribly high amounts of α -pinene, followed by cedrol, L-verbenol and D-verbenol as predominant elements, 1,4-cineole and terpene, myrcene, limonene, caryophyllene, δ -elemene and cedrol, or cedrol, myrcene and terpene. The berries oil of subsp. [2,3]. *polycarpus* additionally contained α -pinene as predominant part, followed by lower amounts of one, 4-cineol, β -ocymene, δ -2-carene, 6-camphenol and sabinene or δ -3-carene and terpene. *J. excelsa* leaves oil was reach in cedrol (28.1%), α -pinene (22.5%) and terpene (22.7%), or α -pinene (29.7% and 32.34%) and cedrol (25.3% and 13.06%).

J. excelsa subsp. *excelsa* may be a medicative plant that has been employed in folks medication to treat dysmenorrhea, cough, respiratory illness and colds, jaundice and TB and to induce expelling and expel foetus [4]. it's referred to as a remedy for diarrhoea, abdominal spasm, asthma, fever, gonorrhea, headache and leucorrhoea. Among restricted biological and medical specialty properties studied (cytotoxic, inhibitor and antispasmodic agent activity) the foremost investigated was the antimicrobial activity

(antibacterial and antifungal). *J. excelsa* medicative properties also are renowned by folks of RM and it's used as pain reliever and for natural action cold, asthma, oedema or skin diseases. Up to currently no chemical investigations were done on this plant and no testing of attainable biological and medical specialty activities were performed. so the aim of this study is analysis of chemical composition of leaves and berries essential oils and analysis of their antimicrobial activity [5]. There are not any data of the yield, antimicrobial activity and chemical composition of essential oils of berries (EOB) or leaves (EOL) of *Juniperus excelsa* Bieb. (Cupressaceae) growing wild in R. Macedonia.

The analysis of EOB and EOL unconcealed 2 chemotypes (α -pinene and sabinene type) clearly relied on the geographical origin of the Macedonian *Juniperus excelsa* that additionally affected the antimicrobial activity of those oils.

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*Address to correspondence: Berenike Axios, Department of Goce Delcev University, Faculty of Medical Sciences, Stip, North Macedonia; E-mail: Berenaxi932@yahoo.com

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