

CHEMICAL COMPOSITION OF THE ESSENTIAL OIL AND ANTIMICROBIAL PROPERTIES OF CRUDE EXTRACT FROM *TANACETUM CORYMBOSUM* (L.) SHI. BIP.

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In memoriam of Professor Mihai Coltsa at 75th anniversary

Abstract. The aim of the present study was to determine the chemical composition of the essential oil and the evaluation of the antimicrobial activity of ethanolic extract from *T. corymbosum* plants from the Republic of Moldova. Hydrodistillation and Soxhlet extraction have been used to obtain volatile oil samples and extracts from plants, respectively. The components of volatile oil were identified by GC-MS analyses. The antibacterial activity of the extracts was assessed by the successive double dilution method. The GC-MS analysis revealed the presence of 38 compounds, including terpenes - germacrene D (33.3% and 47.5%), (Z)- β -farnesene (8.6% and 16.1%), γ -elemene (3.1% and 5.2%), β -caryophyllene (4.2% and 6.5%), aliphatic - palmitic (2.2% and 7.1%) and linoleic (0.2% and 1.0%) fatty acids, fatty alcohol *n*-octadecanol (0.6% and 9.7%), higher alkane *n*-heneicosane (1.0% and 6.9%) as the major constituents. The *in vitro* assessments of hydroalcoholic extract against five bacterial strains and two fungal species showed its promising antibacterial/antifungal activities at 0.03% and 0.015%, respectively. According to the obtained data, the *T. corymbosum* species that grows in Moldova belongs to the germacrene D chemotype. This species holds great potential to be used as an herbal antibacterial agent.

Keywords: chemical composition, ethanolic extract, essential oil, Corymbflower tansy, antimicrobial activity.

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