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Composition and in Vitro Antimicrobial Activity of Three Eryngium L. Species

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Abstract : This research focuses on phytochemistry and antimicrobial activities of compounds isolated and identified from three species of Eryngium. The antimicrobial activity of extracts from Eryngiumplanum L., Eryngium maritimum L., Eryngium campestre L. grown in Lithuania, were tested by the method of series dilutions, against different bacteria species: Escherichia coli, Proteus vulgaris and Staphylococcus aureus with and without antibiotic resistances, originating from livestock. The antimicrobial activity of extracts was described by determination of the minimal inhibitory concentration. Preliminary results show that the minimal inhibitory concentration range between 8.0 % and 17.0 % for the different Eryngium extracts and bacterial species.The total amounts ofphenolic compounds and total amounts of flavonoids were tested in the methanolic extracts of the plants. Identification and evaluation of the phenolic compounds were performed by liquid chromatography. The essential oils were analyzed by gas chromatography mass spectrometry.

Keywords : antimicrobial activities, Eryngium L. species, essential oils, gas chromatography mass spectrometry
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