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# BIOLOGICAL ACTIVITY OF EXTRACTS AND ESSENTIAL OILS OF TWO ERYNGIUM (APIACEAE) SPECIES FROM THE BALKAN PENINSULA

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The present study describes antioxidant and antimicrobial activity of water, methanol, acetone and ethyl acetate extracts from *Eryngium maritimum* L. from Greece and *Eryngium serbicum* Pančić, growing wild in Serbia. Also, antimicrobial activity of essential oils from aerial parts was analysed. Spectrophotometric methods were used for measuring of total phenols, total flavonoids, as well as for antioxidant potential, using DPPH and ABTS methods. The total phenolic content in the extracts was determined using Folin-Ciocalteu reagent and their amounts ranged between 7.47 and 121.35 mg GAE/g. The concentrations of flavonoids in the extracts varied from 8.98 to 48.68 mg QU/g. Antioxidant activity ranged from 1.247 to 31.19 $IC_{50}$ (mg/ml) and from 0.109 to 3.36 mg AA/g when tested with the DPPH and ABTS reagents, respectively. The antimicrobial activity of the extracts and essential oils was investigated using a micro well-dilution assay against the most common human gastrointestinal pathogenic bacterial strains. The most resistant bacterium was *Srteptococcus pyogenes*, while *Staphylococcus aureus* showed high sensitivity in presence of all tested extracts exept on water extract of E. maritimum. Essential oil of *E. serbicum* showed better antimicrobial activity than *E. maritimum* oil. This finding suggests that investigated *Eryngium* species may be considered as a natural source of antioxidant and antimicrobial agents.

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***Key words:*** *Eryngium maritimum, E. serbicum, extracts, essential oils, antioxidant, antimicrobial activity*