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Czech J. Food Sci.

Damjanović-Vratnica

B., Đakov T., Šuković

D., Damjanovic J.:

Antimicrobial effect of essential oil isolated from *Eucalyptus globulus* Labill. from Montenegro

Czech J. Food Sci., 29 (2011): 277-284

Chemical composition of the essential oil of *Eucalyptus globulus* Labill., grown in Montenegro, was analysed by gas chromatography-mass spectrometry and its antimicrobial activity was evaluated against 17 microorganisms, including food poisoning and spoilage bacteria and human pathogens. The *Eucalyptus* essential oil yield was 1.8% (w/w) on the fresh weight basis, whereas the analysis resulted in the identification of a total of 11 constituents, 1.8 cineole (85.8%), α -pinene (7.2%), and β -myrcene (1.5%) being the main components. Other compounds identified in the oil were β -pinene, limonene, α -phellandrene, γ -terpinene, linalool, pinocarveol, terpinen-4-ol, and α -terpineol. The results of the

antimicrobial activity tests revealed that the essential oil of *E. globulus* has rather a strong antimicrobial activity, especially against *Streptococcus pyogenes*, *Escherichia coli*, *Candida albicans*, *Staphylococcus aureus*, *Acinetobacter baumannii*, and *Klebsiella pneumoniae*. Minimum inhibitory concentration revealed the lowest activity against *Pseudomonas aeruginosa* and *Salmonella infantis* (3.13 mg/ml) while the highest activity was against *S. aureus*, *E. coli*, and *S. pyogenes* (0.09 mg/ml).

Keywords:

Eucalyptus globulus Labill.; eucalyptus essential oil; chemical composition; antimicrobial activity

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