

DISCUSSION

Of the 5 plants sample tested, only the methanol and aqueous extracts of *S. octophylla*, showed activity against Gram positive (*S. aureus* and *S. lutea*) and the chloroform, methanol and aqueous extracts of *E. comosum* against *S. aureus*. None of the extracts of *C. caelestis*, *S. arenarius* or *D. glandulosa* showed any activity against the microorganisms at concentration used. Any extracts of the plants tested had antimicrobial activity against Gram-negative. Plants showing antimicrobial activity in this screening will further be examined for their active ingredients.

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Antibacterial properties of cajuput oil

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ABSTRACT

(The paper was presented by Vladimír Ery)

Cajuput oil is obtained by hydrodistillation of leaves from the trees *Melaleuca cajuputi* Powell, syn. *Melaleuca minor* Sm. (family *Myrtaceae*). The current production of cajuput oil in Vietnam exceed 100 tons per year and is mostly destined for the home market. Cajuput oil have been used for longer by traditional healers in Vietnam, Indonesia and China for treatment of purulent skin lesions and as an inhalent in the treatment of nasal catarrh with satisfactory results. The isolation of 1,8-cineole, *l*-*l*-linalool, *l*-*l*-*l*-terpineol and *l*-*l*-terpinen-4-ol was performed by column chromatography of the most suitable distillation fractions on silica gel (deactivated with 11% water) using light petroleum-ether mixtures of different concentrations. Recently cajuput oil has also been used as adjuvant for the treatment of osteomyelitis with very favorable results. We have determined susceptibility of the cajuput oil components by the measuring the diameters of the inhibition zones on Petri dishes. Reference strains of *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa* and strains isolated from purulent lesions. In the qualitative tests

carried out on 23 *Staphylococcus aureus* strains, 1-B-cineole proved to be most potent compound, with average inhibition zones amounting to 16 mm, the other three substances appeared also affective. In the eleven strains of *E. coli* inhibition zone was found 15-16 mm in diameter. *Pseudomonas aeruginosa* strains showed variable levels of inhibition. The most effective out of 4 above mentioned fractions were terpinen-4-ol and -terpineol. Satisfactory results were found in testing of the strains of *Candida albicans*, *Streptococcus* spp. A, B, C and G, *Enterobacter* spp., *Salmonella* spp. and *Klebsiella pneumoniae*. According to our experience we can conclude, that the use of cajuput oil fractions for external treatment of purulent lesions is promising.

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