

Essential Oil Composition and Antimicrobial Activity of *Rosmarinus officinalis* L. Grown in Algeria (Djelfa)

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Abstract : In the last few years, due to the misuse of antibiotics and an increasing incidence of immunodeficiency-related diseases, the development of microbial drug resistance has become more and more of a pressing problem. Recently, natural products from medicinal plants represent a fertile ground for the development of novel antibacterial agents. Plants essential oils have come more into the focus of phytomedicine. The present study describes antimicrobial activity of *Rosmarinus officinalis* L. essential oil known medicinally for its powerful antibacterial properties. The essential oil of rosemary obtained by hydrodistillation (using Clevenger type apparatus) growing in Algeria (Djelfa city of south Algeria) was investigated by GC-MS. The essential oil yield of the study was 1.4 %. The major components were found to be camphor, camphene, 1,8-cineole. The essential oil has been tested for antimicrobial activity against eight bacteria (Gram-negative and Gram-positive), and three fungi including *Candida albicans*. Inhibition of growth was tested by the agar diffusion method based on the determination of the diameter of inhibition. The oil was found to have significant antibacterial activity and therefore can be used as a natural antimicrobial agent for the treatment of several infectious diseases caused by those germs, which have developed resistance to antibiotics.

Keywords : antimicrobial activity, *Rosmarinus officinalis* L., essential oils, GC/MS, camphor

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