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Chemical Composition and Antimicrobial Activity of the Essential Oil of Thymus lanceolatus Desf. an Endemic Thyme from Algeria

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Abstract : The aim of this study is to investigate the chemical composition for the first time, and antimicrobial activities of essential oil (EO) of Thymus lanceolatus Desf., an endemic thyme from Tiaret province of Algeria. The chemical composition of hydrodistilled essential oil from flowering aerial parts has been analyzed by GC and GC/MS techniques, the antimicrobial activity was realised by agar disc diffusion method and MIC was determined in solid medium by direct contact. Essential oil of T. lanceolataus has been yielded of 2.336 (w/w) based on dry weight, the analyses cited above, led to the identification of 29 components, which accounted for 97.34% of the total oil. Oxygenated monoterpenes was the main fraction (88.31%) dominated by thymol (80.2%) as major component of this oil, followed by carvacrol (6.25%). The oil was found effective against all tested strains especially fungus, except Pseudomonas aeruginosa were low activity observed, in addition Gram (+) bacteria found to be more sensitive to the EO than Gram (-) bacteria. This activity was ranging from12±2.65mm to 60.00±0.00mm Ø, with the lowest MIC value of under 0.06mg/ml to 12.53mg/ml. This results provided the evidence that the studied plant might indeed be potential sources of natural antimicrobial agents

Keywords : Thymus lanceolatus Desf., essential oil, chemical composition, antimicrobial activities
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