

ANTIOXIDANT, ANTIMICROBIAL ACTIVITY AND ESSENTIAL OIL COMPOSITION OF *THYMELEA MICROPHYLLA* Coss et Dur.

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ABSTRACT:

The investigation of essential oil of all species belonging to the Thymeleaceae family is very poor especially the genus *Thymelea*. In Algeria it is represented by 7 species. *Thymelea* species are reported to be medicinal plants in the literature as well as in folklore, and their medicinal values are well documented. Their properties are attributed to a variety of active phytochemical constituents. Essential oil components of the aerial parts of *Thymelea microphylla* Coss et Dur. have been studied by gas chromatography-mass spectrometry to afford 11 components. The major components were found to be: D-menthone (41.86 %), 2-Undecanone (23.74 %), Pulegone(11.94%) and Perillal (9.34 %). Some other compounds were only present in minor amounts. In total, volatile oil composition of *Thymelea microphylla* Coss et Dur. was considered as a rich source of oxygenated monoterpenes. The antioxidant activity were evaluated by spectroscopic dohtem, used for that free radical compound (DPPH) and in comparison with a reference(vitamin C). The crude extract showed a good activity against free radical compound (DPPH). The antimicrobial activities of essential oil were evaluated by disc diffusion method and tested against Gram-positive and Gram-negative bacteria and showed a strong antibacterial activity against *Staphylococcus aureus*, *Escherichia coli* and *Klebsiella pneumonia*

KEY WORDS: *Thymelea microphylla* Coss. et Dur., Essential oil, GC-MS. antioxidant activity, antimicrobial activity