

Chemical Composition and Antibacterial Activity of the Essential Oils from *Bunium alpinum* and *Bunium incrassatum*

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Abstract : Bunium in the world comprises about 50 to 100 species, mostly distributed in: Algeria, Italy, Pakistan, Iran, and South Africa. Bunium species have several uses like: Bunium persicum which is commonly used as antispasmodic, carminative, anti-obesity and lactogage. This plant have been widely used as an additive in food stuff such as in bread cooking, rice and yoghurt for its carminative, anti-dyspepsia and antispasmodic effect. The *B. paucifolium* oil has a wide spectrum of action against moulds, yeast and bacteria. The chemical compositions of Bunium incrassatum and Bunium alpinum essential oils were carry out by GC and GC/MS. Therefore, antibacterial activity of two oils was investigated by disk diffusion method against *Pseudomonas aeruginosa* ATCC 27853, *Escherichia coli* ATCC 25922, *Salmonella typhimurium* ATCC 1331, *Staphylococcus aureus* ATCC 25923, *Klebsiella pneumoniae* ATCC 700603, *Bacillus cereus* ATCC 10876, *Enterococcus faecalis* ATCC 49452, *Lysteria monocytogenes* ATCC 15313, *Citrobacter freundii* ATCC 8090, *Proteus mirabilis* ATCC 35659. A moderate antibacterial activity was found. In conclusion, it is found that essential oils of the two species are rich in sesquiterpens and other oxygenated compounds. These compounds have been reported to show bactericidal activity and the presence of phenolic compounds makes them useful antioxidants so that results confirm some ethnopharmacologique applications of these two oils of Bunium.

Keywords : Bunium alpinum, Bunium incrassatum, apiaceae, essential oil, sesquiterpens, phenols, antibacterial, antioxidant activities

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