Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **35** (7): 1634-9 (2016)

Regular article
Received: April 12, 2016
Revised version: April 18, 2016
Accepted: April 21, 2016

Chemical Composition and Antimicrobial Activity of the Essential Oil from the Endemic Species *Pycnocycla bashagardiana* Mozaff.

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SUMMARY. ***Pycnocycla bashagardiana*** **(Apiaceae) is an endemic plant to the south of Iran and is used for the treatment of some microbial disorders. Regarding the presence of volatile terpenoids in the aerial parts we were prompted to investigate the antimicrobial activities of the essential oil from** ***P. bashagardiana*** **aerial parts scientifically against microorganisms including** ***Staphylococcus aureus, S. epidermidis, Bacillus cereus, Escherichia coli, Pseudomonas aeruginosa*** **and** ***Candida albicans*****. The oil was also analyzed by GC and GC-MS in order to identify the potentially responsible compounds for observed property. The antimicrobial effect of the essential oil was primarily evaluated by agar diffusion methods and its MIC and MBC were determined by broth macro dilution method.** ***P. bashagardiana*** **essential oil was found to be effective against all tested microorganisms but the most significant activities were observed against** ***C. albicans,*** **followed by** ***B. cereus*****. Forty three constituents, representing 94.9% of the essential oil, were identified. The major components of the oil were characterized as myristicin (21.6%), cis-isomyristicin (17.1%) and E-β-ocimene (9.2%) which might be responsible for the antimicrobial activities. The results suggest that the essential oil possesses biologically active constituent(s) that have antimicrobial activity which supports the ethnomedicinal claims for the use of this plant in the management of some infectious diseases.**

RESUMEN. Pycnocycla bashagardiana (Apiaceae) es una planta endémica del sur de Irán y se utiliza para el tratamiento de algunos trastornos microbianos. La presencia de terpenoides volátiles en las partes aéreas nos llevó a investigar las actividades antimicrobianas del aceite esencial de *P. bashagardiana* contra varios microorganismos, incluyendo *Staphylococcus aureus, S. epidermidis, Bacillus cereus, Escherichia coli, Pseudomonas aeruginosa* y *Candida albicans*. El aceite esencial también se analizó por GC y GC-MS con el fin de identificar los compuestos potencialmente responsables de la propiedad observada. El efecto antimicrobiano del aceite esencial se evaluó principalmente por métodos de difusión en agar y su MIC y MBC se determinaron por el método de macro dilución del caldo. Se encontró que el aceite esencial de *P. bashagardiana* es eficaz contra todos los microorganismos ensayados, pero las actividades más significativas fueron observadas frente a *C. albicans,* seguido de *B. cereus*. Se identificaron cuarenta y tres constituyentes, lo que representa el 94,9% del aceite esencial. Los principales componentes se caracterizaron como miristicina (21,6%), cis-isomyristicin (17,1%) y E-β-ocimeno (9,2%), que podrían ser responsables de las actividades antimicrobianas. Los resultados sugieren que el aceite esencial de *P. bashagardiana* posee constituyentes biológicamente activos con actividad antimicrobiana que soporta el uso etnomedicinal de la planta en la atención de algunas enfermedades infecciosas.

KEY WORDS: antimicrobial activity, essential oil, myristicin, *Pycnocycla bashagardiana*.

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ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)