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Journal of Saudi Chemical Societywww.ksu.edu.sa  
www.sciencedirect.com

## ORIGINAL ARTICLE

Antimicrobial activity and phytochemical screening  
of *Arbutus unedo* L.Mohamed El Amine Dib \*, Hocine Allali, Amel Bendiabdellah, Nawel Meliani,  
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Received 11 February 2011; accepted 2 May 2011

## KEYWORDS

*Arbutus unedo* L.;  
Phytochemical screening;  
Water and methanol extract;  
Phenolic fractions;  
Antimicrobial activity

**Abstract** In this study, antimicrobial activities of water and methanol extract, and three phenolic fractions of the roots of *Arbutus unedo* L. were investigated. Poor antibacterial activity against both *Staphylococcus aureus* and *Pseudomonas aeruginosa* bacteria was shown with water and methanol extract. However moderate antibacterial activity was shown by water extract and phenolic fractions against *Escherichia coli* and *S. aureus*, respectively. The phytochemical screening of roots of *A. unedo* revealed the presence of quinones, anthraquinones reducteurs compounds, anthocyanins, tannins and flavonoids. Quantitative analysis showed that the roots were strongly dominated by anthocyanins compounds ( $3.65 \text{ mg g}^{-1}$ ) followed by total flavonoids ( $0.56 \text{ mg g}^{-1}$ ) and flavones & flavonols ( $0.17 \text{ mg g}^{-1}$ ).

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## 1. Introduction

In the Mediterranean region and North Africa, *Arbutus unedo* L. is traditionally used as an alternative medicine for its

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Peer review under responsibility of King Saud University.  
doi:10.1016/j.jscs.2011.05.001



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biological properties. The fruit has antiseptic, diuretic and laxative effects, and the leaves have astringent, urinary tract antiseptic, anti-diarrheal and depurative properties (Ziyyat et al., 1997; Kivçak and Mert, 2001; Pabuçcuoglu et al., 2003; Mariotto et al., 2008; Afkir et al., 2008). Ziyyat and Boussairi, 1998 and Ziyyat et al., 2002 showed that an aqueous extract of *A. unedo* exhibited antihypertensive (Haouari et al., 2007) and vasorelaxant properties (Rosato et al., 2001). Furthermore, an *in vitro* study indicated that diethylether and ethyl acetate extracts of *A. unedo* leaves have an anti-aggregating effect on human platelets (Redondo et al., 2005a,b). This effect is likely mediated by its antioxidant activity, which may inhibit protein tyrosine phosphorylation and  $\text{Ca}^{2+}$  influx into platelets (Redondo et al., 2005a,b; Oliveira et al., 2009). Several compounds have been isolated from *A. unedo*, including aromatic acids, iridoids, monoterpenoids, phenylpropanoids, sterols and triterpenoids (Carcache-Blanco et al.,