

*International Society of Antioxidants
in Nutrition and Health*

8th ISANH Congress on

Polyphenols Applications

8th World Congress on

POLYPHENOLS APPLICATIONS

JUNE 5-6, 2014 - LISBON, PORTUGAL



Abstracts Book



INTERNATIONAL SOCIETY
— OF —
ANTIOXIDANTS

8th World Congress on
Polyphenols Applications

June 4-6, 2014 – Lisbon, Portugal

Chairmen of the Scientific Committee

Marvin Edeas & Andreas Schieber

Local Organising Committee

Luisa Bivar Roseiro & Fernanda Borges



INTERNATIONAL SOCIETY
— OF —
ANTIOXIDANTS
IN NUTRITION & HEALTH

ISBN 978-2-35609-073-7

ANTIOXIDANT POTENTIAL AND PHENOLIC COMPOUNDS CHARACTERIZATION OF *ARENARIA MONTANA* L.

ELIANA PEREIRA^{1,2}, LILLIAN BARROS¹, MONTSERRAT DUEÑAS², ANA MARIA CARVALHO¹, CELESTINO SANTOS-BUELGA², ISABEL C.F.R. FERREIRA^{1*}

¹Mountain Research Centre (CIMO), ESA, Polytechnic Institute of Bragança, Portugal.

²GIP-USAL, Faculty of Pharmacy, University of Salamanca, Spain

iferreira@ipb.pt

The therapeutic benefits of medicinal plants arise from a diverse phytochemical composition, which confers antioxidant potential among other bioactive properties. The scientific community has been interested in phenolic compounds, since epidemiological studies have associated the consumption of diets rich in natural antioxidants with decreased risk of diseases related to oxidative stress. Their potent antioxidant activity has been related to different pharmacological actions namely, anticarcinogenic/antimutagenic, antibacterial, antiviral or anti-inflammatory properties. *Arenaria montana* L. is an herbaceous plant native to mountainous regions of southwestern Europe and the infusion of this plant (stems, leaves and flowers) is used in Portuguese traditional medicine for its anti-inflammatory and diuretic properties [1-3]. The present work describes the phenolic compounds in *A. montana*, analyzed by HPLC-DAD-ESI/MS, and the antioxidant activity (scavenging activity, reducing power and inhibition of lipid peroxidation) of its hydromethanolic extract and infusion. Ten phenolic compounds were identified as flavone derivatives. Methyl-luteolin 2''-O-feruloylhexosyl-C-hexoside was the main flavone found (0.45 g/100 g dw) in *A. montana*, being the total amount of flavones 1.20 g/100 g dw. Regarding to antioxidant activity, the infusion gave higher antioxidant potential than the hydromethanolic extract in all the assays, with the exception of DPPH scavenging activity assay in which both samples showed similar results. *A. montana* may be used as a functional food, due to the presence of bioactive compounds and this study supports the documented medicinal effect of this species, and opens the possibilities of food and pharmaceutical applications. As far as we know, this is the first detailed study of phenolic compounds and antioxidant potential of this plant.

Acknowledgments: The authors are grateful to Fundação para a Ciência e a Tecnologia (FCT, Portugal) for financial support to CIMO (strategic project PEst-OE/AGR/UI0690/2011). The GIP-USAL is financially supported by the Spanish Government through the Consolider-Ingenio 2010 Programme (FUN-C-FOOD, CSD2007-00063). M. Dueñas thanks to the Programa Ramón y Cajal for a contract.

References:

[1] G. Bulut and E. Tuzlaci, *J. Ethnopharmacol.*, 2013, 149, 633–647.

[2] G. Timité, A-C. Mitaine-Offer, T. Miyamoto, C. Tanaka, J-F. Mirjole, O. Duchamp and M-A. Lacaille-Dubois, *Phytochem.*, 2011, 72, 503–507.

[3] V. Castel, O. Andrich, F.M. Netto, L.G. Santiago and C.R. Carrara, *J. Food Eng.*, 2014, 122, 62–67.