2013

Book of Abstracts of the1st International Symposium on Profiling

2nd - 4th
September 2013
Caparica - Portugal

Book of Abstracts of the 1st International Symposium on Profiling 2013

ISPROF 2013 - 1st

Caparica - Almada, Portugal

2nd – 4th SEPTEMBER 2013

Book of Abstracts of the 1st International Symposium on Profiling 2013
ISPROF 2013 - 1st

Cover design: Hugo Santos

Organization of the Book of Abstracts: José Luís Capelo, Mário Diniz, Carlos Lodeiro, Hugo Santos, Elisabete Oliveira, Eduardo Araujo

ISBN: 978-989-98415-5-0 (pdf version)
ISBN: 978-989-98415-4-3 (paper version)

Printed by Proteomass (Portugal)

Printage: 200 copies (CD-ROM); 30 copies (paper)

Caparica, Portugal, 2013

Table of contents

S15. Phenolic profile of wild *Achillea millefolium* L. obtained by HPLC-DAD-ESI/MS

Maria Inês Dias[1,2], Lillian Barros[1,3], Montserrat Dueñas[3], Ana Maria Carvalho[1], M. Beatriz P.P. Oliveira[2], Celestino-Santos Buelga[3], Isabel C.F.R. Ferreira[1,*]

[1]CIMO/Escola Superior Agrária, Instituto Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1172, 5301-855 Bragança, Portugal
[2]REQUIMTE, Departamento de Ciências Químicas, Faculdade de Farmácia da Universidade do Porto, Rua Jorge Viterbo Ferreira, 228, 4050-313 Porto, Portugal
[3]Grupo de Investigación en Polifenoles (GIP-USAL), Facultad de Farmacia, Universidad de Salamanca, Campus Miguel de Unamuno, 37007 Salamanca, Spain
iferreira@ipb.pt

Abstract

Achillea millefolium L., commonly known as yarrow, belongs to *Asteraceae* family and it is very common in mountain meadows, pathways, crop fields and homegardens. It is widely used in Europe as an herbal remedy to treat digestive problems, diabetes, hepato-biliary diseases and amenorrhea, being also consumed for its antitumor, antimicrobial, anti-inflammatory and antioxidant properties [1,2]. Some studies related *A. millefolium* medicinal properties to the presence of phenolic compounds, namely flavonoids and phenolic acids [3,4]. In the present study, the phenolic profile of wild *A. millefolium* from the Northeastern Portugal was evaluated by HPLC-DAD-ESI/MS, after extraction with methanol:water (80:20, *v:v*). Twenty eight different compounds were identified: ten phenolic acids, in which 5-*O*-caffeolyquinic and 3,5-*O*-dicaffeolyquinic acids were the main compounds; eight flavones, namely different glycosylates forms of apigenin, being apigenin acylhexoside the major flavones; and ten flavonols, with quercetin derivatives as main compounds.

Overall, this study reveals that *A. millefolium* is an important source of bioactive molecules, namely phenolic compounds that could be related to its pharmaceutical and ethnobotanical uses.

References

[1] Carvalho, A.M. (2010). Plantas y sabiduría popular del Parque Natural de Montesinho. Un estudio etnobotánico en Portugal. Biblioteca de Ciencias, vol. 35. Consejo Superior de Investigaciones Científicas, Madrid.
[2] Candan, F., Unlu, M., Tepe, B., Daferera, D., Polissiou, M., Sökmenc, A., Akpulat, H. A. (2010). Journal of Ethnopharmacology, 87, 215–220.
[3] Vitalini, S., Berreta, G., Iriti, M., Orsenigo, S., Basilico, N., Dall'Acqua, S., Iorizzi, M., Fico, G. (2011). Acta Biochemical Polonica, 58, 203-209.
[4] Benetis, R., Radušienė, J., Janulis, V. (2008). Medicina (Kaunas), 44, 775-781.

Acknowledgements

The authors are grateful to strategic projects PEst-OE/AGR/UI0690/2011 and PEst-C/EQB/LA0006/2011 for financial support to CIMO and REQUIMTE, respectively. M.I. Dias and L. Barros thank to FCT, POPH-QREN and FSE for their grants (SFRH/BD/84485/2012 and SFRH/BPD/4609/2008, respectively). The GIP-USAL is financially supported by the Consolider-Ingenio 2010 Programme (FUN-C-FOOD, CSD2007-00063). M. Dueñas thanks the Spanish "Ramón y Cajal" Programme for a contract.

ISPROF 2013

CERTIFICATE

Hereby it is declared that

Maria Inês Dias, Lillian Barros, Montserrat Dueñas, Ana Maria Carvalho, M. Beatriz P.P. Oliveira, Celestino-Santos Buelga, Isabel C.F.R. Ferreira

Presented a shot-gun talk entitled ***"Phenolic profile of wild Achillea millefolium L. obtained by HPLC-DAD-ESI/MS"*** in the ***1st International Symposium on Profiling – ISPROF***, held in Caparica, Portugal, during days 2, 3 and 4 of September 2013

2010
PROTEOMASS
SCIENTIFIC SOCIETY

Prof. José Luis Capelo Martínez

Congress Chair