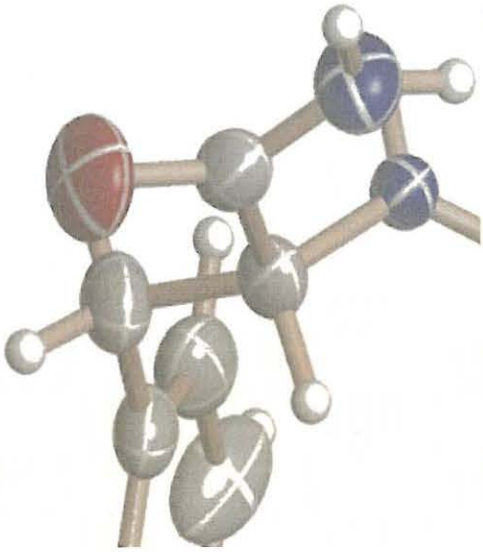
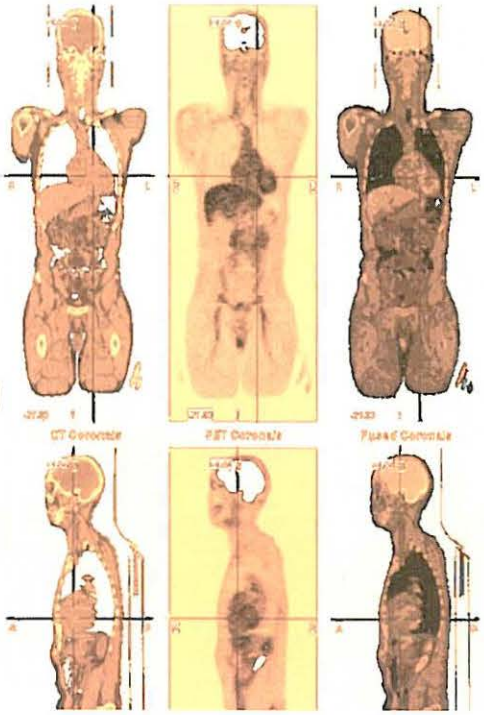
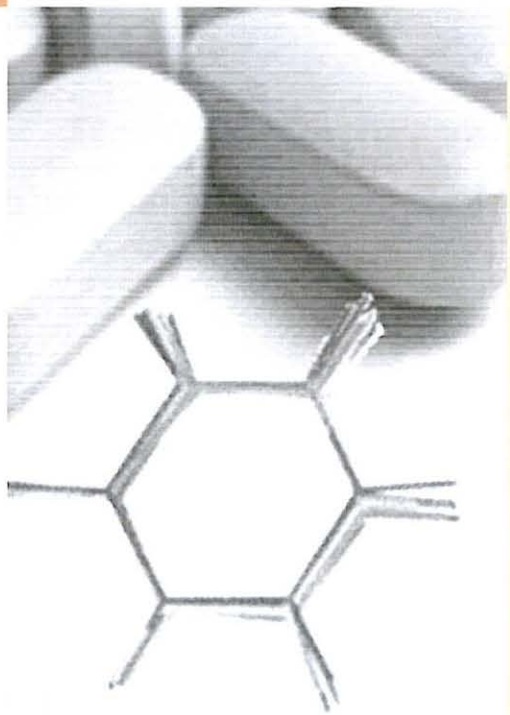




1st Symposium on MEDICINAL CHEMISTRY of University

Braga

Campus de Gualtar
17 May 2013



Universidade do Minho

Sociedade Portuguesa de Química

1911 2011 100 ANOS

PC31

Antioxidant properties of flowers and vegetative parts of wild *Taraxacum* sect. *Ruderalia*

Maria Inês Dias[a],Lillian Barros[a], Maria João Sousa[a], Rita C. Alves[b], M. Beatriz P.P. Oliveira[b], Isabel C.F.R. Ferreira[a]

[a]*Centro de Investigação de Montanha (CIMO), ESA, Instituo Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1172, 5301-855 Bragança, Portugal*
[b]*REQUIMTE, Departamento de Ciências Químicas, Faculdade de Farmácia, Universidade do Porto, Rua de Jorge Viterbo Ferreira, 228, 4050-313 Porto, Portugal; *iferreira@ipb.pt*

The species of the genus *Taraxacum* are known as dendalion (due to the shape of the leaves) and are commonly found in the Northern Hemisphere, in inhabiting fields and roadsides with warmer temperatures. Dendalion infusion and decoction are used in traditional medicine to treat kidney disease, dyspepsia, arthritic and rheumatic complaints, skin problems like eczema and even diabetes mellitus. Besides the pharmaceutical uses, the whole plant is included in many food products [1]. One of the most commonly consumed species is *T. officinale*; however, traditional collectors have sometimes difficulties in distinguish different *Taraxacum* species. In the present study, two samples of wild *Taraxacum sect. Ruderalia* collected in Bragança, flowers and vegetative parts, were studied for their antioxidant activity. Free radicals (DPPH- 2,2-diphenyl-1-picrylhydrazyl) scavenging activity, reducing power and lipid peroxidation inhibition were evaluated on the methanolic extract, infusion and decoction of dandelion samples. Theresults of the antioxidant activity of the flowers and vegetative parts were very similar. Decoctions of both samples showed the highest DPPH scavenging activity (EC_{50}= 0.42 and 0.12 mg/mL for flowers and vegetative parts, respectively). The decoction of vegetative parts also showed the highest reducing power (EC_{50}= 0.16 mg/mL). The decoction of flowers and the infusion of vegetative parts showed very similar results for β-carotene bleaching inhibition (EC_{50}= 0.40 and 0.46 mg/mL, respectively).The methanolic extract of vegetative parts showed the highest activity in TBARS (thiobarbituric acid reactive substances) assay (EC_{50}= 0.13 mg/mL), although the infusion revealed also a low EC_{50} value for the same assay (0.16 mg/mL). As far as we know, there are no previously studies on the comparison of the antioxidant activity of different extracts and parts of this species of dendalion. More studies will be conducted to evaluate the activity against human tumour cell lines and to characterize the bioactive compounds present in the different extracts.

Acknowledgments:

FCT for financial support to the research centre CIMO (PEst-OE/AGR/UI0690/2011) and REQUIMTE (PEst-C/EQB/LA0006/2011). M.I. Dias, L. Barros and R.C. Alves also thank to FCT, POPH-QREN and FSE for their grants (SFRH/BD/84485/2012, SFRH/BPD/4609/2008 and SFRH/BPD/68883/2010, respectively).

References:

[1] S. Katrin, C. Reinhold and S. Andreas, *J. Ethnopharmacol*, **2006**, *107*, 313–323.