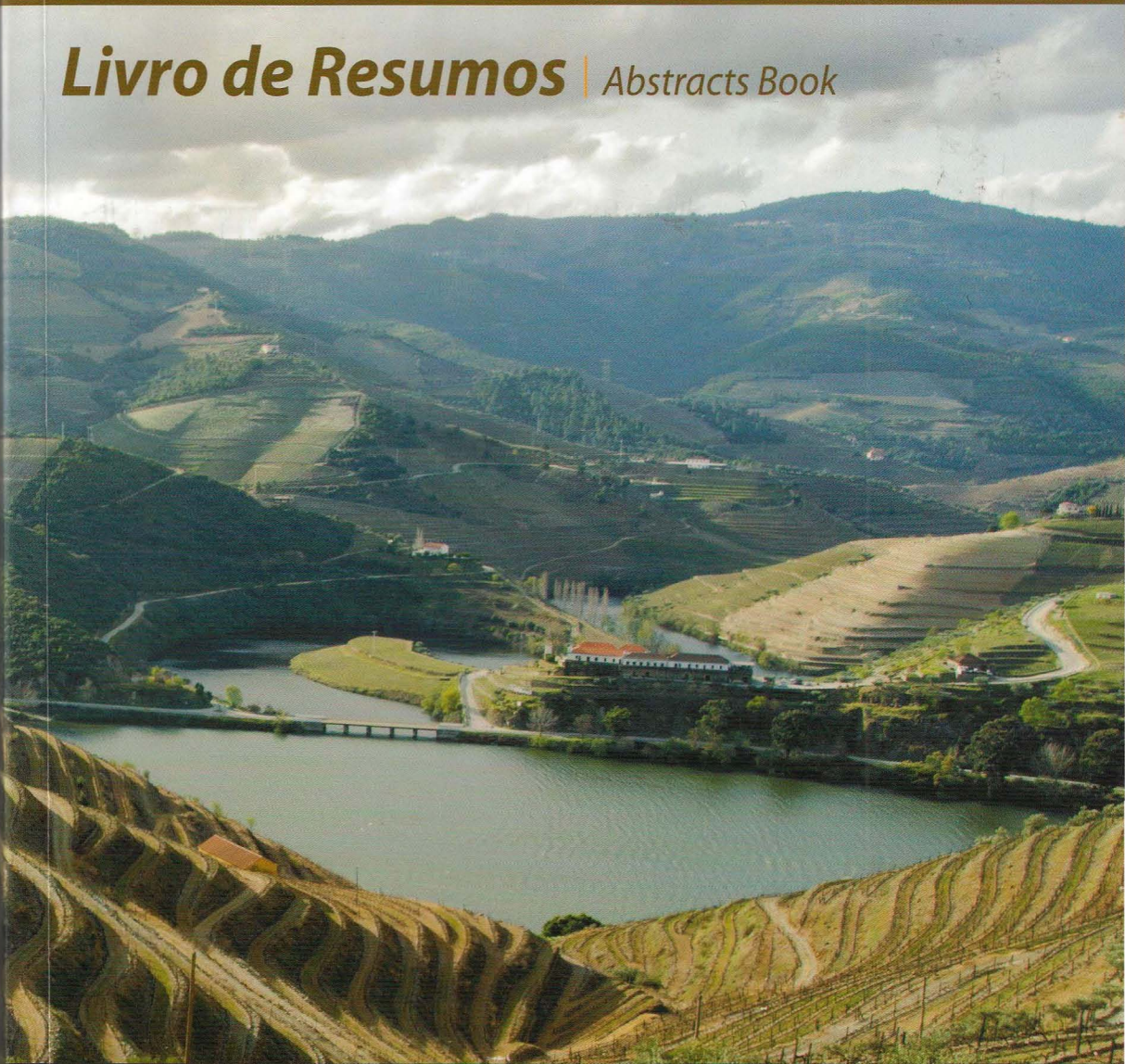


XVIII ENCONTRO LUSO-GALEGO DE QUÍMICA

Livro de Resumos | Abstracts Book



VILA REAL - PORTUGAL
28, 29 e 30 de Novembro 2012

UTAD UNIVERSIDADE DE TRÁS-OS-MONTES E ALTO DOURO

Polyphenols characterization and toxicological evaluation of *Pterospartum tridentatum* leaf water extracts

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Pterospartum tridentatum Willk. (prickled broom) is an autochthonous and common plant in Portugal. Leaves and stems are normally used in cooking, to flavour rice, roast meat or hunting animals. Leaves are also used as a condiment in fresh salads and, despite of its traditional use, no toxicological evaluation has been performed.

P. tridentatum leaves aqueous extract ESI-MS spectrum revealed the presence of several luteolin and isorhamnetin derived phenolic compounds, which can be associated to the health benefits claimed for this plant species. Still, *P. tridentatum* leaves extract (up to 100 µg plant extract.mg⁻¹ protein) stimulated state 4 and FCCP-stimulated liver mitochondria respiratory rates and inhibited the state 3 respiratory rate. Respiratory control ratio was diminished, indicating a decrease in phosphorylative efficiency due to inner mitochondrial membrane induced by *P. tridentatum* leaves extract. Nevertheless, previous results, cytotoxicity evaluation by MTT assay (50 and 125 µg plant extract) showed no significant decrease on HepG2 cell viability. Overall, the present study suggests that the consumption of *P. tridentatum* leaves should be regarded as safe.

Acknowledgments:

We would like to express our gratitude to Prof. Dr. António M. L. Crespi (Department of Biology and Environment, University of Trás-os-Montes & Alto Douro, Vila Real, Portugal) for the accurate identification of plants used in this study.

This work was supported by European Union Funds (FEDER/COMPETE - Operational Competitiveness Programme) and by national funds (FCT - Portuguese Foundation for Science and Technology) under the project FCOMP-01-0124-FEDER-022696. The authors acknowledge the financial support provided by the FCT to CERNAS (project PEst-OE/AGR/UI0681/2011) and of the FCT as well as FSE (III Quadro Comunitário de Apoio) to QOPNA (project PEst-C/QUI/UI0062/2011), REDE/1504/REM/2005 (that concerns the Portuguese Mass Spectrometry Network).