



International Conference on Food Contaminants 2015  
Challenges in chemical mixtures

# Program and Abstract Book

Lisbon,  
Portugal

ICFC 2015  
13th International Conference on Food Contaminants  
Tubular Chemical Mixtures

APRIL  
13th and 14th

highest concentrations tested (25 µg.mg protein<sup>-1</sup> or higher) the inhibition observed on the mitochondrial respiratory chain, as reflected by FCCP-stimulated respiration, revealed that *M. aquatica* ethanolic extract is toxic for mitochondrial bioenergetics. In conclusion, the present study suggests that a highly daily consumption of an ethanolic extract of *M. aquatica* leaves should be regarded as hazardous.

## (P56) Toxicological evaluation and polyphenols characterization of *Pterospartum tridentatum* leaf extracts

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*Pterospartum tridentatum* Willk. (prickled broom) is a common autochthonous 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<sup>-1</sup> protein) stimulated state 4 and FCCP-stimulated liver mitochondria respiratory rates and inhibited the state 3 respiratory rate. Respiratory

control ratio was decreased, indicating a dysfunction in respiratory activity induced by *P. tridentatum* leaves extract and, in good agreement with the previous results cytotoxicity evaluation by MTT assay (50 and 125 µg plant extract.10<sup>-6</sup> cells) showed a decrease on HepG2 cell viability. Overall, the present study suggests that the consumption of *P. tridentatum* leaves in high amounts or continuously should be regarded as potentially noxious.

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