The range of concentrations tested (up to 15,000 mg/mL) in this study did not affect the mitochondrial bionessentials, however, increased concentrations of the extract significantly increased the release of reactive oxygen species and induced apoptosis, which were confirmed by flow cytometry and using the TUNEL assay.

Microbiological analysis of the extract revealed the presence of several potential pathogens, including Escherichia coli, Staphylococcus aureus, and Candida albicans. The extract also exhibited antimicrobial activity against these pathogens, with MIC values ranging from 6.25 to 25 mg/mL.

Conclusions: The current study provides novel insights into the potential of A. philippinensis for use in food preservation and as a natural antimicrobial agent. Further research is needed to investigate the safety and efficacy of the extract in human and animal models.
highest concentrations tested (25 μg.mg protein⁻¹ 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

Fernanda M. Ferreira⁵, Francisco P. Peixoto⁵,⁶, Olivia R. Pereira⁷, Lia T. Dinis⁸,⁹, M. Rosário M. Domingues⁸, Carlos M. Palmeira⁹, and Susana M. Cardoso¹⁰

⁵ Department of Environment, Coimbra Higher School of Agriculture (ESAC), Polytechnic Institute of Coimbra (IPC), Coimbra, Portugal; ⁶ Centre for Investigation and Agro Environmental and Biological Technologies (CITAB) – Vila Real, Portugal; ⁷ Chemistry Department, University of Trás-os-Montes & Alto Douro, Vila Real, Portugal; ⁸ Chemistry Department, University of Aveiro, Portugal; ⁹ Department of Diagnostic and Therapeutic Technologies, School of Health Sciences & CIMO, Polytechnic Institute of Bragança, Bragança, Portugal; ¹⁰ Department of Biologic and Environmental Engineering (DEBA), University of Trás-os-Montes & Alto Douro, Vila Real, Portugal; ¹¹ Department of Chemistry & QOPNA, University of Aveiro, Aveiro, Portugal; ¹² Department of Life Sciences, Center for Neurosciences and Cell Biology of Coimbra, University of Coimbra, Portugal. * Corresponding author: Department of Environment, Coimbra Higher School of Agriculture (ESAC), Bencanta, 3045-601 Coimbra, Portugal. Phone: + 351 239 802 940; Fax: + 351 239 802 979 (fmiferreira@gmail.com).

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⁻¹ protein) stimulated state 4 and FCCP-stimulated liver mitochondria respiratory rates and inhibited the state 3 respiratory rate. Respiratory