



# XV

MADEIRA

# ENCONTRO DE QUÍMICA DOS ALIMENTOS

5-8 DE SETEMBRO DE 2021



ESTRATÉGIAS PARA A EXCELÊNCIA,  
AUTENTICIDADE, SEGURANÇA  
E SUSTENTABILIDADE ALIMENTAR



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# Livro de Resumos

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## Autores

José S. Câmara

Jorge A. M. Pereira

Rosa Perestrelo Gouveia

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José S. Câmara

Jorge A. M. Pereira

Rosa Perestrelo Gouveia

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## PC-A35: Valorization of *Halimione portulacoides* as food ingredient: biological and nutritional studies

Arona Pires<sup>1</sup>, Sílvia Agreira<sup>1</sup>, Sandrine Ressureição<sup>1</sup>, Joana Marques<sup>2</sup>, Raquel Guiné<sup>3</sup>, Maria João Barroca<sup>1,2</sup>, Aida Moreira da Silva<sup>1,2</sup>

<sup>1</sup>Coimbra College of Agriculture, Polytechnic Institute of Coimbra, Bencanta, 3045-601 Coimbra, Portugal.

<sup>2</sup>Unidade de I&D Química-Física Molecular, Department of Chemistry, University of Coimbra, 3004-535 Coimbra, Portugal.

<sup>3</sup>CERNAS Research Centre, Department of Food Industry, Polytechnic Institute of Viseu, 3504-510 Viseu, Portugal.

Email: [aronap@esac.pt](mailto:aronap@esac.pt) (A.P.); [silvia.agreira@gmail.com](mailto:silvia.agreira@gmail.com) (S.A.); [sandrine@esac.pt](mailto:sandrine@esac.pt) (S.R.); [marques.it@uc.pt](mailto:marques.it@uc.pt) (J.M); [raquelguine@esav.ipv.pt](mailto:raquelguine@esav.ipv.pt) (R.G.); [mjbarroca@esac.pt](mailto:mjbarroca@esac.pt) (M.J.B.); [aidams@esac.pt](mailto:aidams@esac.pt) (A.M.S.)

The prospect of global warming and freshwater reduction leads to an increase of saline and dry conditions of the land and leads to an enhanced need for salt-tolerant crops. *Halimione portulacoides* (sea purslane) is an halophyte plant found on coastlines and salt marches around the coasts of North Africa, South-West Asia and Europe. In Europe is one of the most productive and abundant species in salt marshes. *H. portulacoides* (sea purslane, “gramata branca” or “beldroega do mar” in Portuguese) is dispersed along the coast of the Iberian Peninsula. In this study, the leaves of sea purslane, collected in salt marshes of Figueira da Foz (Portugal) were characterized at nutritional and mineral composition. Total phenolic compounds (Folin Ciocalteu method) and antioxidant activity ( $\beta$ -carotene/linoleic acid, metal chelating ability, FRAP and CUPRAC method) were also assessed in methanolic extracts obtained from the leaves. Moreover, was developed an enriched food (butter) with sea purslane powdered dried leaves and the sensorial evaluation (colour, flavour, scent, texture and overall acceptance) of the novel food was performed by a consumer panel. The butter was prepared according to standard procedure, controlling butter’s moisture content up to 16%. A portion of butter was salty with NaCl (1.0%) and the other with 0.8 % of dried leaves of sea purslane. After salting, the butter was worked vigorously to ensure even distribution of the salt or sea purslane powder. The butter enriched with sea purslane (*H. portulacoides*) is presented in **Figure 1**.



**Figure 1:** Butter enriched with *H. portulacoides*.

From a nutritional point of view, sea purslane leaves may be considered as a good source of dietary fibre, protein, natural minerals such as sodium, calcium, magnesium and manganese. The intake of 100 g of fresh leaves sea purslane provides 24%, 28%, 74% and 78%, respectively, of the daily value recommended for calcium, magnesium, manganese and sodium. Due to their content in sodium, sea purslane can be viewed as a good candidate to be a food ingredient to replace salt (NaCl). On the other hand, leaves showed a high level of total phenolic compounds and a considerable antioxidant. Concerning the food sensory evaluation, butter with the incorporation of *H. portulacoides* had the higher scores in all organoleptic characteristics. Thus, it was verified that the use of *H. portulacoides* can be considered a promising salt substitute in butter and a good alternative to enhance the nutritional and sensorial characteristics of products, with additional health benefits.

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