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Abstract

Edible Halophytes—A Novel Source of Functional Food Ingredients? †

Sukirtha Srivarathan [1,2,*], Anh Dao Thi Phan [1], Yasmina Sultanbawa [1], Olivia Wright [1,3] and Michael E. Netzel [1]

[1] ARC Industrial Transformation Training Centre for Uniquely Australian Foods, Queensland Alliance for Agriculture and Food Innovation (QAAFI), The University of Queensland, Coopers Plains, QLD 4108, Australia; anh.phan1@uq.net.au (A.D.T.P.); y.sultanbawa@uq.edu.au (Y.S.); o.wright@uq.edu.au (O.W.); m.netzel@uq.edu.au (M.E.N.)
[2] Department of Biosystems Technology, Faculty of Technology, University of Jaffna, Ariviyal Nagar, Kilinochchi (NP) 44000, Sri Lanka
[3] School of Human Movement and Nutrition Sciences, The University of Queensland, St. Lucia, QLD 4072, Australia
* Correspondence: s.srivarathan@uq.edu.au
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Abstract: In recent years, edible halophytes have received more attention due to their ability to tolerate a wide range of salinities. In Australia, halophytes are used in a broad range of applications by Indigenous communities—in traditional cuisine, as livestock feed, and for soil bioremediation. However, very limited scientific information is available on the nutritional profiles and potential bioactivity of halophyte species. Therefore, the present study assessed the nutrient and phytochemical composition of Australian-grown Seapurslane (SP) (*Sesuvium portulacastrum*), Old Man Saltbush (SB) (*Atriplex nummularia*), and Seablite (SBL) (*Suaeda arbusculoides*) to better understand their nutritional value and potential bioactivity. SB and SP contained more ($p < 0.05$) fibre than commercial Australian baby spinach (same plant family) which was used as a reference (41.5 vs. 40.4 vs. 33.4 g/100 g dry weight (DW)). Furthermore, these plants can be considered as valuable sources of essential minerals (Ca, Fe, Mg and Na) and trace elements; specifically, SBL had the highest content of Ca and Fe. SB had the highest protein (20.1 g/100 g DW) and fat (2.7 g/100 g DW) content compared to the other studied halophytes. The fatty acid profile consisted mainly of palmitic, stearic, oleic, linoleic, and α-linolenic acids. A strong antioxidant capacity (total phenolic content and DPPH radical scavenging capacity) indicated that (poly) phenolic compounds are most likely the predominant phytochemicals in this species. These initial results are promising and suggest that Australian indigenous edible halophytes may have the potential to be utilized as functional food ingredients.

Keywords: halophytes; Australian grown; nutritional profile; bioactive potential; food

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