biology and life sciences forum

MDPI

Proceeding Paper

The Functional Potential of the Saharan Wild Olive Related to Their Bioactive Compound Contents and Biological Activities †

Houari Benamar [1,2,*] and Malika Bennaceur [1,2]

[1] Department of Biology, University of Oran1, El M'Naouer, P.O. Box 1524, Oran 31000, Algeria; houaribenamar@hotmail.com
[2] Laboratory of Research in Arid Areas, Department of Biology and Physiology of Organisms, University of Science and Technology Houari Boumediene, P.O. Box 32, El Alia, Bab Ezzouar 16111, Algeria; snvbennaceur@gmail.com
* Correspondence: houaribenamar@hotmail.com; Tel.: +213-7-73-88-82-51
† Presented at the 3rd International Electronic Conference on Foods: Food, Microbiome, and Health—A Celebration of the 10th Anniversary of Foods' Impact on Our Wellbeing; Available online: https://foods2022.sciforum.net.

Abstract: The Saharan wild olive is a plant used for food and medicinal purposes in the Mediterranean region [1]. In this study, the leaves of *Olea europaea* subsp. *laperrinei* were investigated for their functional phytochemical profile, *in vitro* antioxidant properties, and acetylcholinesterase (AChE) inhibitory activity. Phenolic compounds were distinctively profiled in the different extracts using TLC and standard phenolics. Maceration in methanol allowed recovering the highest cumulative phenolic, flavonoid, flavonol, and hydrolyzable and condensed tannin contents (390.14; 478.16; 23.22; 64.19 and 3.81 mg/g, respectively). The ethyl acetate and methanol extracts showed high in vitro antioxidant activities using different assays (total antioxidant capacity, DPPH, ABTS, DMPD, and superoxide radicals, beta-carotene, metal chelating, FRAP, and CUPRAC), whereas ethyl acetate extract showed the highest inhibition against AChE (510.33 μg/mL). The phytochemical analysis showed the presence of caffeic acid, kaempferol, naringin, quercetin, isoquercitrin, hyperoside, rutin and chrysophanol in extracts. These findings showed that the methanol extract is a rich source of bioactive compounds. A promising nutraceutical potential could be highlighted in our understudied Saharan wild olive.

Keywords: phenolics; flavonoids; *Olea europaea* subsp. *laperrinei*; phytochemical analysis; antioxidant; acetylcholinesterase

Citation: Benamar, H.; Bennaceur, M. The Functional Potential of the Saharan Wild Olive Related to Their Bioactive Compound Contents and Biological Activities. *Biol. Life Sci. Forum* **2022**, *2*, x. https://doi.org/10.3390/xxxxx

Published: 1 October 2022

References

1. Baba Aissa, F. *Encyclopédie des Plantes Utiles, Flore d'Algérie et du Maghreb, Substances Végétales d'Afrique, d'Orient et d'Occident*; Ed Librairie Modern: Rouiba, Algeria, 2000; p. 46.