Abstracts

FOR

5th International Symposium on

Phytochemicals in Medicine and Food

(5-ISPMF)

AUGUST 25 – SEPTEMBER 01 2021, NANCHANG, CHINA

Welcome Address

It is our great pleasure to welcome you to the 5th International Symposium on Phytochemicals in Medicine and Food (5-ISPMF), which is organized by the International Association of Dietetic Nutrition and Safety (IADNS), Phytochemical Society of Europe (PSE), Physiological Society of Japan, and Phytochemical Society of Asia (PSA). 5-ISPMF is jointly organized by Nanchang University, Jiangsu University and University of Vigo. Over 410 scientists from 62 counties and other 350 scientists from China have registered to attend this online conference. 5-ISPMF also has obtained the supports form several international journals including Food Chemistry Marine Drugs, International Journal of Molecular Sciences, Food Chemistry X, Oxidative Medicine and Cellular Longevity, Phytochemsitry Reviews, and so on. The international organizing committee and scientific committee board of 5-ISPMF assembled an exciting and diverse program, featuring 16 plenary lectures, 82 invited lectures, 142 oral presentation, a graduate student forum consisting of 70 short lecture, and more than 100 posters, which dedicate to creating a stage for exchanging the update research results in the phytochemicals for food and human health.

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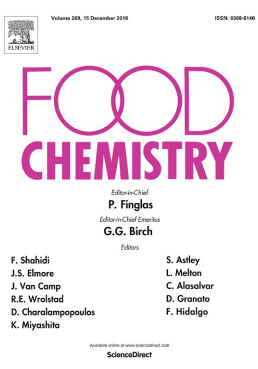

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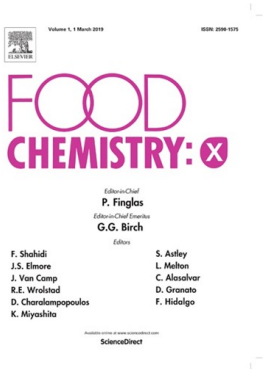

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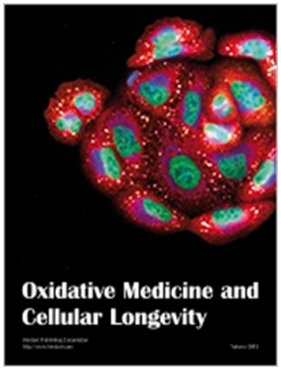

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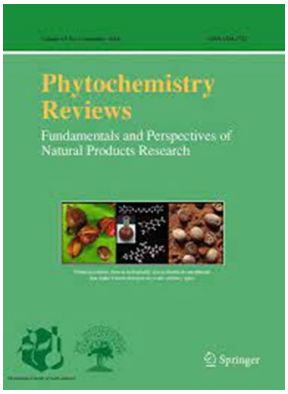

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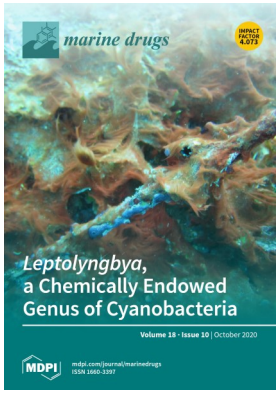

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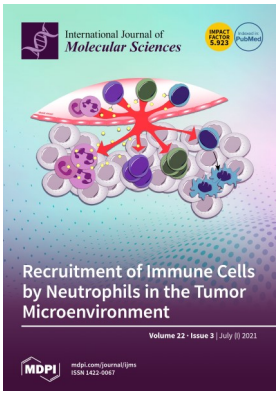

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PP15: Biological activities of selected plants of Rosaceae family employed in traditional remedies

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During human history, people have searched plant species to heal their diseases, elaborating different traditional remedies. Nowadays, numerous scientific studies have demonstrated the beneficial biological properties of several plants including species of Rosaceae familywhich appears in various ethnobotanical studies as one of the most used plants in traditional medicine *Crataegus monogyna* Jacq., *Geum urbanum* (L.) and *Potentilla erecta* (L.) Raeusch. are some plants of this family that have been employed in several traditional remedies, but their use is still limited nowadays [1]. The objective of this study was to different biological properties of these species, to potentiate their possible use in several biobased industrial applications. Antioxidant activity was evaluated by different *in vitro* assays: DPPH radical scavenging assay, TBARS, OXHLIA and reducing power. Anti-inflammatory activity was assessed by the inhibition of inflammation on RAW264.7 murine macrophages. Finally, antitumor activity was tested against four tumour cell lines: MCF-7, CaCo, AGS and NCI-H460. The results showed that all plant extracts had antioxidant effects in the selected assays, especially *G. urbanum* and *P. erecta.* Aditionally, *P. erecta* presented the best anti-inflammatory effect, with EC_{50} of 50 µg/mL extract. Finally, all the species presented cytotoxic effect against the cell lines, being *P. erecta* the most effective, with GI_{50} ranging from 13 to 61 µg/mL of extract. Considering these results, the three species showed promising potential as therapeutic alternatives based on the observed bioactive properties and can be utilised in food, cosmetic and pharmaceutical formulations.

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PP16: The use of camellias as potential antioxidant agents

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The genus *Camellia* presents a wide geographic distribution in which three species can be highlighted: *Camellia japonica* for ornamental purposes, *Camellia oleifera* for essential oil production, and *Camellia sinensis* for tea production. Among them, *C. japonica* is characterized by its associated high socioeconomic impact in Galicia (NW Spain) due to its abundance in gardens, since, to date, its use continues to be almost exclusively ornamental. However, different chemical characterizations carried out on *Camellia* genus have indicated a similar composition among different species, so it would be expected that *C. japonica* could be used for additional purposes [1]. These applications will be determined by the chemical composition of the part used, which in turn will be influenced by the variety of camellia and environmental factors (growing area, climate, soil). One of the parts of greatest interest are the flowers since it has been shown that the petals of *C. japonica* have a high content of phenolic compounds that make them potential sources of bioactive compounds for medicinal and cosmetic use [2]. In this work, a standard extraction (maceration) was carried out using a methanol: water mixture (60:40) as solvent to evaluate the bioactivity of the flowers of different varieties of *C. japonica*. Among the 8 varieties analyzed, two of them (Elegans variegated and Grandiflora Superba) were characterized by having a high antioxidant capacity, as observed in terms of 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity of 136.5 and 86.8 µg/mL respectively. Overall, it can be concluded that camellias are a potential source of antioxidants with application in food and nutraceutical industries.

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The research leading to these results was supported by MICINN supporting the Ramón y Cajal grant for M.A. Prieto (RYC-2017-22891) and Juan de la Cierva Formation grant for T. Oludemi (FJC2019-042549-I); by Xunta de Galicia for supporting the program EXCELENCIA-ED431F 2020/12 and the pre-doctoral grant A.G. Pereira (ED481A-2019/0228). Authors are grateful to Ibero-American Program on Science and Technology (CYTED—AQUA-CIBUS, P317RT0003), to the Bio Based Industries Joint Undertaking (JU) under grant agreement No 888003 UP4HEALTH Project (H2020-BBI-JTI-2019) that supports the work of P. Garcia-Perez. The JU receives support from the European Union's Horizon 2020 research and innovation program and the Bio Based Industries Consortium. The project SYSTEMIC Knowledge hub on Nutrition and Food Security, has received funding from national research funding parties in Belgium (FWO), France (INRA), Germany (BLE), Italy (MIPAAF), Latvia (IZM), Norway (RCN), Portugal (FCT), and Spain (AEI) in a joint action of JPI HDHL, JPI-OCEANS and FACCE-JPI launched in 2019 under the ERA-NET ERA-HDHL (n° 696295).

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PP17: Optimization of microwave-assisted extraction of