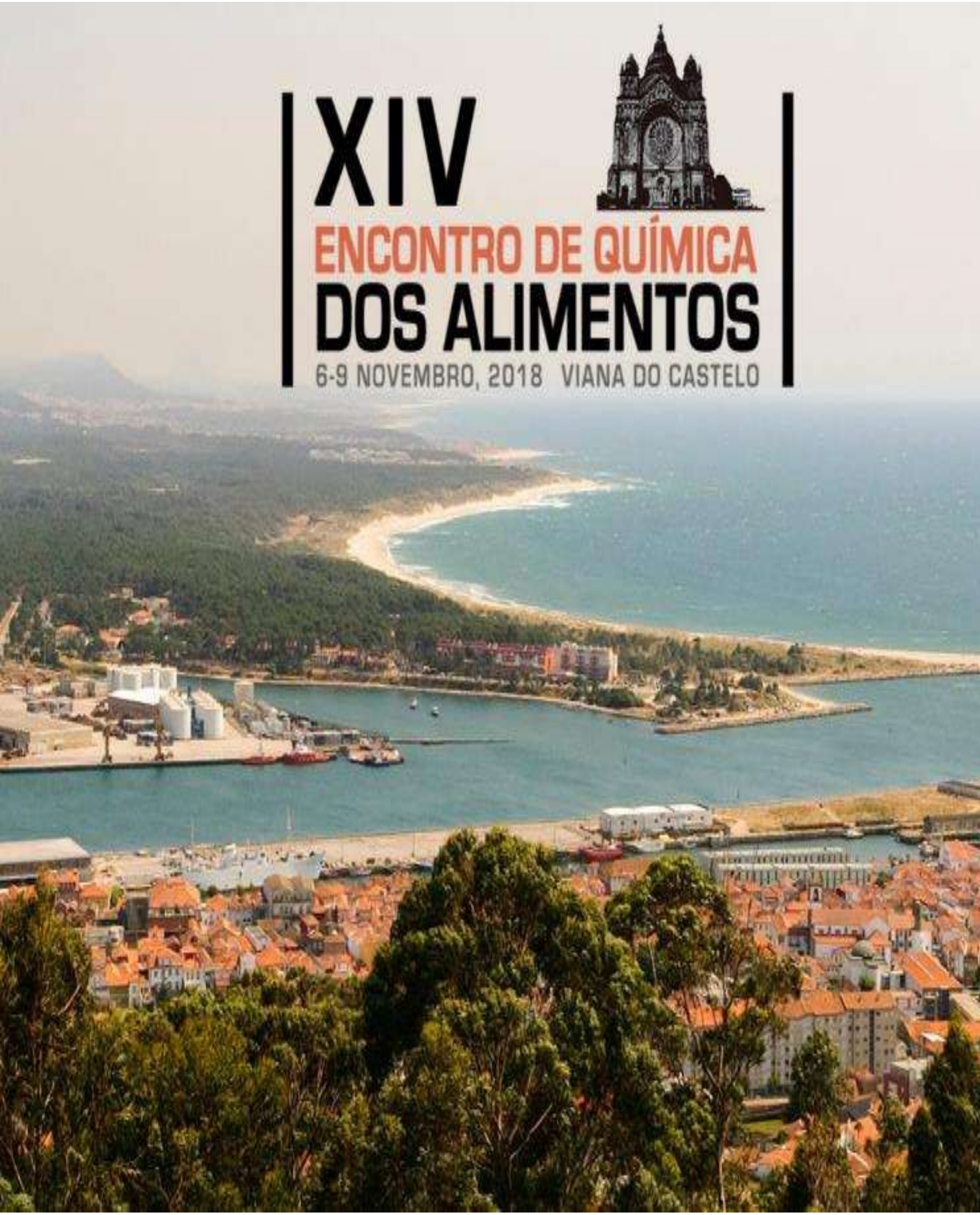
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Autores

Ana Paula Vale, Carla Barbosa, Manuela Vaz Velho, Manuel Rui Alves, Maria Alberta Araújo, Mário Barros, Preciosa Pires, Rita Pinheiro, Susana Rocha

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CP031
ADANSONIA DIGITATA FRUIT: BIOACTIVE COMPOUNDS AND ANTIOXIDANT ACTIVITY AGAINST REACTIVE SPECIES

Diana Pinto[1], Ana F. Vinha[1,2], Marisa Freitas[1], M. Beatriz P.P. Oliveira[1]

[1]LAQV, REQUIMTE, Faculty of Pharmacy, University of Porto, Rua Jorge Viterbo Ferreira n.º228, 4050-313 Porto, Portugal.
[2]FP-ENAS (UFP Energy, Environment and Health Research Unit), CEBIMED (Biomedical Research Center), University Fernando Pessoa, Praça 9 de Abril, 349, Porto, Portugal.
anafvinha@gmail.com.

Baobab (*Adansonia digitata*) is an African native fruit, of which both chemical composition and antioxidant activity against physiologically relevant reactive oxygen species (ROS) and reactive nitrogen species (RNS) were not yet investigated. It is generally accepted that the antioxidant activity of natural resources could be related with the prevention of several diseases [1,2]. Baobab leaves, fruit pulp, root, stem, seeds and bark have shown medicinal properties, including diuretic, anti-inflammatory, antioxidant, hepato-protective, analgesic, anti-diarrhea, anti-dysentery, anti-rheumatoid and antiviral activities [3,4] mainly related to their phenolic composition.
In this study. aqueous, ethanolic and hydroalcoholic (1:1) extracts of baobab were submitted to the analysis of total phenolic and flavonoid compounds (TPC and TFC, respectively) [5,6]. The antioxidant activity was also determined by *in vitro* assays, namely FRAP, DPPH (1,1-diphenyl-2-picrylhydrazyl) and the scavenging effect against ROS and RNS. The baobab pulp extracts presented a TPC ranging between 138 and 1573 mg GAE/100 g dw, for the alcoholic and aqueous extract, respectively. The hydroalcoholic extract presented the highest TFC content and antioxidant capacity. Moreover, the maximum scavenging activity against ROS and RNS were also obtained with the hydroalcoholic extract. In general, the high content of phenolic compounds of these extracts might explain its high scavenging capacity against all the ROS/RNS evaluated [superoxide anion radical ($O_2^{\bullet -}$), hydrogen peroxide (H_2O_2), hypochlorous acid (HOCl), nitric oxide ($^{\bullet}NO$) and peroxyl radical ($ROO^{\bullet}$)]. Therefore, baobab fruit seems to be a promising source of bioactive compounds that should be explored due to its phytopharmaceutical potential.

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[1] Barizão, E.O.; Visentainer, J.V.; Almeida, V.C.; Ribeiro, D.; Chisté, R.C.; Fernandes, E. *Food Research International* **2016**, *86*, 24-33.
[2] Almeida, D.; Pinto, D.; Santos, J.; Vinha, A.F.; Palmeira, J.; Ferreira, H.N.; Rodrigues, F.; Oliveira, M.B.P.P. *Food Chemistry* **2018**, *259*, 113-121.
[3] Owoyele, B.V.; Bakare, A.O. *Biomedicine & Pharmacotherapy* **2018** *97*, 209-212.
[4] Adeoye, A.O.; Bewaji, C.O. *Journal of Ethnopharmacology* **2018**. *210*, 31-38.
[5] Costa, A.S.G.; Alves, R.C.; Vinha, A.F.; Barreira, S.V.P.; Nunes, M.A.; Cunha, L.M.; Oliveira, M.B.P.P. *Industrial Crops and Products* **2014**. *53*, 350-357.
[6] Costa, A.S.G.; Alves, R.C.; Vinha, A.F.; Costa, E.; Nunes, M.A.; Almeida, A.A.; Santos-Silva, A.; Oliveira, M.B.P.P. *Food Chemistry* **2018**, *267*, 28-35.