12º ENCONTRO NACIONAL

CROMA-TOGRAFIA

6 › 8 dez'22

Aveiro | Portugal

PROVISIORAL

universidade de aveiro

Sociedade Portuguesa de Química

XIV WARBA

TÍTULO:

Livro de Resumos do 12º Encontro Nacional de Cromatografia & XIV WARPA

AUTOR:

Sílvia M. Rocha

CO-AUTOR(ES):

Alexandre Fonseca

Cátia Martins

Manuel António Coimbra

Maria Eugénia Queiroz

Samuel Patinha

Sónia Ribeiro

EDITOR: Sociedade Portuguesa de Química (SPQ)

SUPORTE: Eletrónico

FORMATO: PDF / PDF/A

ISBN 978-989-8124-37-1

P26 Casting light on the chemical characterization of Acacia pods

Pedro SI,[1,2] Fernandes TA,[3,4] Antunes AMM,[3] Gominho J,[2] Gallardo E,[5,6] Anjos O[1,2,7]

[1] *Centro de Biotecnologia de Plantas da Beira Interior, Castelo Branco, Portugal*
[2] *Centro de Estudos Florestais (CEF), Instituto Superior de Agronomia, Universidade de Lisboa, Lisboa, Portugal*
[3] *CQE, Centro de Química Estrutural, Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento (IST-ID), Universidade de Lisboa, 1049-001 Lisboa, Portugal*
[4] *DCeT – Departamento de Ciências e Tecnologia, Universidade Aberta, Rua da Escola Politécnica,141-147, 1269-001 Lisboa, Portugal*
[5] *Centro de Investigação em Ciências da Saúde (CICS-UBI), Universidade da Beira Interior, Covilhã, Portugal;*
[6] *Laboratório de Fármaco-Toxicologia—UBIMedical, Universidade da Beira Interior, Covilhã, Portugal*
[7] *Instituto Politécnico de Castelo Branco, Castelo Branco, Portugal*

Email: soraia_p1@hotmail.com

Invasive species impose a strain on natural ecosystems by contributing to the loss of certain native species. Acacia species are amongst the most aggressive invasive species in Portugal.
In this work, *Acacia retinodes*, *A. longifolia*, *A. melanoxylon*, *A. pycnantha* and *A. dealbata* pods were studied concerning the extraction of compounds for potential industrial application. The Acacia pods were collected in 2021 from different regions, according to their geographical distribution, lyophilized and frozen at -80 °C until analysis. The extraction was made according to the methodology described by Puga *et al.*[1]. Different phenolic compounds were identified using high-performance liquid chromatography-diode array detector (HPLC/DAD) and liquid chromatography-electrospray ionization high-resolution tandem mass spectrometry (LC-ESI-HRMS/MS) using a quadrupole time-of-flight instrument (Q-TOF). Prior to any treatment, the fresh pods were also analysed by Near-infrared spectroscopy (NIR).
So far, 20 compounds have been analysed and identified, including simple phenolics, hydroxybenzoic acids, hydroxybenzoic aldehydes, hydroxycinnamic acids, hydroxycinnamic aldehydes, furans, flavonoids, flavanols, flavones.
The principal component analysis performed using analytical data and NIR spectra produced similar findings, allowing us to conclude that the Acacia pods present a distinct profile of compounds that may be easily distinguished by vibrational spectroscopy.
The compounds found in the Acacia pods seem to have the potential for harvest, with a focus on prospective applications being the goal of upcoming research.

Funding: This research was funded by project PCIF/GVB/0145/2018 (Acacia4fireprev). This work is also funded by National Funds through the FCT—Foundation for Science and Technology under the Projects UIDB/00239/2020 (CEF), (UI0204): UIDB/00313/2020 and UIDB/00690/2020 (CIMO),CICS-UBI (UIDB/00709/2020 and UIDP/00709/2020), CQE (UIDB/00100/2020 and UIDP/00100/2020).

References:

1. C.D. Puga, M.C. Hilario, J.G.E. Mendoza, O.M. Campos, E.M. Jijón, M.D. Martínez, M.A.Á. Izazaga, J.Á.L. Solano, J.P. Chaverri. BMC Complement. Altern. Med.(**2015**) 15: 1–8.