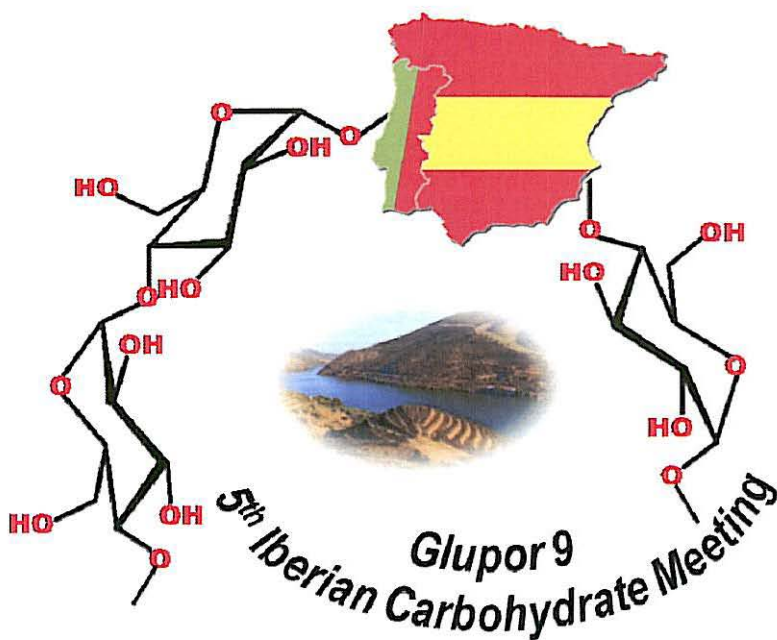


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5<sup>th</sup> Iberian Carbohydrate Meeting

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## MONOMERIC COMPOSITION AND LINKAGE ANALYSIS OF THE POLYSACCHARIDES PRESENT IN THE INFUSIONS OF *FRAXINUS ANGUSTIFOLIA* LEAVES

MARTINS V. M. R.,<sup>1,2</sup> COIMBRA M. A.<sup>2</sup>

<sup>1</sup> CIMO, School of Agriculture, Polytechnic Institute of Bragança, Bragança, Portugal.

<sup>2</sup> QOPNA, Department of Chemistry, University of Aveiro, Aveiro, Portugal.

[vmartins@ipb.pt](mailto:vmartins@ipb.pt)

In the northeast region of Portugal, the use of plants with medicinal purposes is widespread. Many of these are used as infusions and, according to the popular knowledge, those from *Fraxinus angustifolia* (narrow-leaved ash) protect against high levels of cholesterol, blood pressure, and uric acid. In order to observe if the polysaccharides from narrow-leaved ash are biologically active, as those that have been reported in literature [1, 2], this study reports the isolation and partial characterization of the polysaccharides present in the infusions of *F. angustifolia*.

The dried leaves were boiled in water during two periods of 2 h, filtered, dialyzed, and freeze-dried to obtain the high molecular weight material (HMWM). A total yield in HMWM of 3.8% (w/w) was obtained. The HMWM from the 1<sup>st</sup> 2 h was composed by 57% of glycosidic material, while the HMWM from the 2<sup>nd</sup> 2 h featured 76%. Both HMWM's exhibited a monomeric composition rich in uronic acids, besides presenting relevant proportions of Ara, Gal, and Glc. Rha, Xyl and Man residues were also detected.

The HMWM's obtained were submitted to ethanol precipitation and then to anion exchange chromatography. The relative proportions of the sugars and methylation analysis suggest the occurrence of pectic polysaccharides comprising Type II arabinogalactans, which are referred as potentially biologically active [1, 2]. Tentative structures for the arabinosyl and galactosyl chains are presented. Further work will need to be done in order to assess the biological activity of the isolated polysaccharides.

[1] Inngjerdingen, K. T., Coulibaly, A., Diallo, D., Michaelsen, T. E., Paulsen, B. S. (2006) A Complement Fixing Polysaccharide From *Biophytum petersianum* Klotzsch, a Medicinal Plant From Mali, West Africa. *Biomacromolecules*, 7, 48-53.

[2] Sakurai, M. H., Kiyohara, H., Matsumoto, T., Tsumuraya, Y., Hashimoto, Y., Yamada, H. (1998) Characterization of Antigenic Epitopes in Antiulcer Pectic Polysaccharides from *Bupleurum falcatum* L. Using Several Carbohydrases. *Carbohydrate Research*, 311, 219-229.