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**POLYSACCHARIDES FROM THE INFUSIONS OF
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Abstract

The use of plant infusions for medicinal purposes is present in secular traditions of all civilizations. In Portugal, in Trás-os-Montes region, the small shrub (*Pterospartum tridentatum*), the narrow-leafed ash (*Fraxinus angustifolia*), and the apple mint (*Mentha suaveolens*) are plants used for such purposes. According to the popular tradition, the infusions of *P. Tridentatum*, *F. Angustifolia*, and *M. suaveolens* protect against diabetes, high blood pressure, high levels of cholesterol, and uric acid [1]. These health benefits are associated with the presence of phenolic compounds, essential oils, and polysaccharides, among others. Although phenolic compounds and essential oils have been studied in detail for more than two decades, the structures of the polysaccharides present in plant infusions and their involvement in the health benefits is still incipient. Infusions were prepared in two different ways: a traditional method, consisting in the infusion of the vegetal material with boiling water during five minutes (Method A), and a more intensive method, consisting in the infusion of the vegetal material with boiling water during four hours (Method B). The high molecular weight material was obtained by concentrating and dialyzing the extracts obtained by Methods A and B. The high molecular weight material obtained with the Method B contained more glycosidic material than the obtained with Method A. The high molecular weight material was fractionated using ethanol precipitation yielding fractions especially rich in uronic acids besides considerable amounts of arabinose, galactose, glucose and rhamnose, suggesting the presence of pectic polysaccharides. Detailed monomeric composition and glycosidic linkages of each fraction will be presented.

References

[1] Carvalho, A. M. P. (2005) Ethnobotany from Montesinho Natural Park. Plants, tradition and popular knowledge of the north-eastern territory of Portugal. PhD Thesis-Universidad Autónoma de Madrid (Original version in Spanish).

