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Determination of some phenolic acids in Algerian propolis

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Abstract. Propolis is a resinous material collected by bees from various plant exudates, rich in well-known phenolic compounds, such as phenolic acids, that are important to health. Extracts of propolis are very complex matrices that are hard to test. The purpose of this study was to characterize some of the propolis phenolics that were collected from five different districts in Algeria. The High-Performance Liquid Chromatography (HPLC), a modern quantitative method, has been adopted to identify the phenolic acids. Moreover, total phenolic content of four different phenolic acids were identified, with the most abundant being chlorogenic acid, followed by caffeic acid, gallic acid, and *p*-coumaric acid, the obtained ratios from phenolic acids being in the range of 52.193 to 148.151 μg/g, 0.043 to 7.128 mg/g, 0.328 to 0.440 mg/g and 0.328 to 0.440 mg/g, respectively. Overall, our analysis indicates that all the samples of propolis tested are healthy sources of phenolic acids and the significant differences in the concentrations of the acids were observed for propolis samples from north and south of Algeria. It is probably the effect of different conditions of the collection of the resin and secrets by bees.

Keywords: bee pollen; phenols; HPLC; antioxidant properties.

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