



Thirteen Flavonoids from Green Propolis from Minas Gerais, Brazil, Analyzed for Six Years

M. D. FREITAS¹, G. A. LOPES¹, N. A OLIVEIRA¹, B. M. ALMEIDA², S. R. L. ABREU², R. C. BASQUES³, N. S. BINDA⁴, S. M. FIGUEIREDO^{1,3*}

¹Departamento de Alimentos, Escola de Nutrição, Universidade Federal de Ouro Preto. Campus Morro do Cruzeiro, s/n. Ouro Preto. 35400-000. Minas Gerais. Brazil.

²NectarPharmaceutical. Rodovia MG 435, Km 2.5. Caeté. Minas Gerais. 34800-000. Brazil.

³Instituto de Ensino e Pesquisa da Santa Casa de Belo Horizonte (IEP/SCBH). Rua Domingos Vieira, 590. Belo Horizonte. 30150-240. Minas Gerais. Brazil.

⁴Departamento de Farmácia. Escola de Farmácia. Universidade Federal de Ouro Preto. Campus Morro do Cruzeiro. Ouro Preto. 35400-000. Minas Gerais. Brazil

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*Corresponding author /Yazışılan yazar

Abstract

Propolis, a greenish resinous collected by bees, mainly from plants around their *habitat*, is a Greek word resulting from the prefix "*pro*" (preservation or defense) with "*polis*" (hive or community or cluster). There are 13 types of propolis in Brazil, which vary according to the geographical and botanical origin regions and its different chemical compositions². The green propolis (GrProp) type, derived from plant *Baccharis dracunculifolia*, popularly known as rosemary-of-field, gained prominence for its varied chemical constitution, mainly related to flavonoids. In this study was evaluated the seasonal effect on the chemical composition of GrProp from Minas Gerais (Brazil) in a period of six years. The GrProp was collected at February, March, May, July, September and October during six years (2008-2013). The chemical composition of thirteen flavonoids of GrProp was evaluated by RP-HPLC and statistical analysis of the results. The relative amounts of the majority of GrProp flavonoids were similar in most analyzed samples p-Coumaric acid, chrysin, galangin and kaempferol showed statistically differences in the analyzes made during the study months and through the period of analysis. Nevertheless, the results indicated that GrProp maintained similar and stable characteristics through the six years of study.

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References:

1. Park, YK, Alencar, SM, Scamparini, ARP, Aguiar, CL (2002). Própolis produzida no sul do Brasil, Argentina e Uruguai: Evidências fitoquímicas de sua origem vegetal. *Ciência Rural*. 2: 997-1003,
2. De Figueiredo, SM, Binda, NS, Almeida, BM, Abreu, SRL, Abreu, JAS, Pastore, GM, Sato, HH, Toreti, VC, Tapia, EV, Park YK, Vieira-Filho, SA, Caligorne, RB (2015). Green Propolis: Thirteen Constituents of Polar Extract and Total Flavonoids Evaluated During Six Years through RP-HPLC. *Curr Drug Discov Technol*. 12(4):229-239.