

The Proline Content of Honeys from Africanized and Native Bees from the State of Alagoas

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Proline is the predominant amino acid in bee's products, and its total content (TCP_r) is used to assess the "maturity" of honey from Africanized bees (*Apis mellifera*), since it indicates possible tampering with commercial sucrose. However, data on the use of this parameter in honeys from native bees are rare. This study aimed to quantify the TCP_r in honeys of different entomologic origins from Alagoas (Brazil), also providing a profile of other free amino acids present in them. We used 10 samples of *Apis mellifera* (M1 to M10), 11 of *Melipona scutellaris* (AU1 to AU12), one of *M. quadrifasciata* (AM1), one of *M. subnitida* (AJ1) and one of *Plebeia droryana* (AP1), respectively from backlands, coast and semi-arid of Alagoas. Two systems for extraction were tested, one direct, using acid hydrolysis (BOGDANOV, 2002), and another indirect, from protein extracts (OLIVEIRA, 2006) of honey. The TCP_r was quantified (BOGDANOV, 2002), and preliminary quality assessment was performed by thin-layer chromatography (TLC) in silica gel 60 (254 nm), where aliquots (25 µL) of the samples M3, M4, M8, AU11, AM1 and P1 were applied, developed by the solvent-system butanol:acetic acid:water (4:1:1 v:v:v) and revealed with 7.5% ninhydrin solution. The TCP_r ranged from 432-1324 mg.Kg⁻¹ in *Apis* honeys, from 76.7-191.6 mg.Kg⁻¹ in *M. scutellaris* honeys and it was respectively 25.4, 190.7 and 326.4 mg. Kg⁻¹ in honeys of *M. quadrifasciata*, *M. subnitida* and *P. droryana*. The TLC-amino acids profile was similar for all honeys from native or Africanized bees, although the first extraction method (direct) not allowed a good resolution between amino acids, and the indirect method carried out a chromatogram with bands more clearly separated, being one of them common and with the same retention factor (0.15) to the pattern of proline.

Keywords: honey, proline, *Apis*, *Melipona*, native bees, African bees

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