

Total Protein Content of Honey of Africanized and Native Bees from the State of Alagoas

Menezes, A. P. D.¹; Duarte, A. W. F.²; Vasconcelos, M. R.S.²; Gomes, E.P.¹;
Lopez, A. M. Q.¹

UFAL, BR 104 Km 97N, s/n, Maceió-AL, Brasil, cep 57072-970. ¹IQB; ²FANUT-PG. ,
dridomarques@gmail.com, amql@qui.ufal.br

The total concentration of protein and free amino acids in honey is quite variable due to its floral origin, and environmental conditions of each region, but generally it is low, and little is known about their identity, especially in products of native bees. Based on this, this study aimed to quantify the protein content of honeys from different entomological sources in the state of Alagoas. 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. We tested two systems of extraction, one with acetone at -20 °C (PERALTA, 2003) and another with HCl, chloroform and methanol (OLIVEIRA, 2006). The total protein content was tested by the method of LOWRY et al.(1951), and preliminary quality assessment was performed by thin-layer chromatography (TLC) on silica gel 60 (254nm). For this, aliquots of 25 µL of the samples were applied, and the solvent- system used was chloroform: methanol (6:1 v.v⁻¹). The chromatograms were revealed with 7.5% ninhydrin solution. The total protein content was generally higher in honey samples of *A. mellifera* (58.97- 115.8 eq. µg of albumin mL⁻¹) than in samples of native bees (46.72-211.2 eq. µg of albumin mL⁻¹). The protein profile was similar in CCD for all samples of honey from native or Africanized bees, which showed intense band with retention factor of 0.53-0.58. However, the sample M4 of *Apis* showed a band with larger and more intense area. This result suggest a similar pattern of protein in honeys from different entomological sources, but with different concentrations, as also evidenced by the test of Lowry.

Keywords: honey, total protein content, *Apis*, *Melipona*, native bees, African bees

Supported by: FAPEAL and BNB