

Investigation of the feeding habits of the *Scaptotrigona aff. Postica* bee using NAA and XRF analytical techniques

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The *Scaptotrigona aff. Postica* bee found in the Northeast (Maranhão, MA-Brazil) is the main agents of pollination and conservation of local biodiversity as well as the major source of income (honey, propolis, pollen and resins). These inputs are for nutritional and have several medical applications (bactericide, fungicide and virucide). This stingless bee is not yet fully standardized, and studies are needed to obtain knowledge about this species. The relevance of this investigation is to understand the eating habits of this bee. There is controversy regarding their eating habits, that is, ingesting soil is a bee eating habit, but (apparently) this does not happen with this species. This study aimed to propose the multielemental characterization of *Scaptotrigona aff. Postica* bee (MA-Brazil), as well as the characterization of the soil around the hives. Soil ingestion is a critical route of exposure to contaminants. Stingless bees and soil samples come from a meliponary in the Barra do Corda city (MA). Two analytic techniques were applied for this investigation: Instrumental Neutron Activation Analysis (INAA) and Energy Dispersive X Ray Fluorescence (EDXFR). These data are the first estimates of chemical elements in these samples and provide benefits to beekeepers regarding their characteristic specifications. In addition, correlations between ion and metal in soil and bees can help clarify the feeding habits of this species.