

EVALUATION OF THE INSECTICIDAL ACTIVITY OF *Parahancornia amapa* IN THE CONTROL OF LEAF-CUTTER ANTS

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Leaf-cutting ants of the genera *Atta* and *Acromyrmex* are considered the main pests of *Pinus* and *Eucalyptus* plantations, causing significant economic losses. Various strategies have been employed to control these pests, with synthetic insecticides being the most commonly used method. However, the continuous and indiscriminate use of these products over the years has led to serious environmental consequences and health risks^{1,2}. In this context, natural products have emerged as promising alternatives, with special emphasis on plant extracts, particularly those from *Parahancornia amapa*, a species native to the Amazon. Extraction processes were carried out using hexane and ethanol on the leaves and bark, from which the hexane extract of the leaves and the ethanolic extract of the bark exhibited significant insecticidal activity against *Atta sexdens* workers. This study enabled the isolation of three compounds, reported for the first time for this species, and their characterization by nuclear magnetic resonance (NMR) spectroscopy. Furthermore, a phytochemical investigation was conducted to annotate the metabolites present using UHPLC-QToF/MS-MS analyses. The data obtained were processed and refined with the support of spectral databases such as GNPS, MSFinder, and MSDial, allowing the annotation of several secondary metabolites, including flavonoids, coumarins, pterocarpans, terpenes, and iridoids. The presence of these chemical groups, widely recognized for their biological properties, reinforces the bioactive potential of *P. amapa* and highlights its relevance as a source of natural products for sustainable pest management.

Keywords: Leaf-cutting ants, insecticides, natural products, *Parahancornia amapa*.

Reference:

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