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CHEMICAL CHARACTERIZATION OF LYCHNOPHORA PIRANIANA: A NEW SPECIES NAMED IN HONOR OF PROFESSOR JOSÉ RUBENS PIRANI

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The genus *Lychnophora* (Asteraceae) comprises approximately 30 species endemic to Brazil, primarily distributed in the rupestrian fields of the *Cerrado* and *Serra do Espinhaço*. Popularly known as '*arnicas*', these plants are traditionally used in folk medicine for their anti-inflammatory and analgesic properties in the alternative treatment of muscle pain, contusions, and inflammations. Studies have demonstrated that *Lychnophora* species are rich in specialized metabolites such as flavonoids, diterpenes, and sesquiterpene lactones, which are frequently associated with various pharmacological activities, including anti-inflammatory and antioxidant effects. Beyond their ethnobotanical significance, *Lychnophora* species also hold economic relevance, particularly in the production of cosmetics and phytotherapeutics like anti-inflammatory creams and essential oils. Recently, novel species have been described to the genus, enriching taxonomic knowledge and expanding the possibilities for discovering bioactive compounds with the potential for developing new therapies.

This project aimed to perform the chemical characterization of *Lychnophora piraniana*, a new *Lychnophora* species named in honor of botanist José Rubens Pirani, whose contributions to the Brazilian flora are significant to the genus. Using liquid chromatography coupled to tandem mass spectrometry (LC-MS/MS) followed by data mining techniques, 230 metabolites were detected. Among these, several phenolic compounds, including flavonoids and hydrocinnamic acid derivatives, and sesquiterpene lactones were annotated. The detailed characterization of these compounds can reveal novel substances, contributing to the development of innovative therapeutic products and highlighting Brazilian biodiversity.

Keywords: *Lychnophora piraniana, Metabolomics, Mass Spectrometry (LC-MS/MS), Natural Products and Asteraceae*