Anti-hyperalgesic activity of *Byrsonima duckeana* W. R. Anderson (Malpighiaceae)

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**Introduction:** Among the cardinal signs of inflammation, pain is the most onerous to health systems, due to discomfort caused to patients. This directly implies in the fact that nonsteroidal anti-inflammatory drugs are most produced and used medicines in worldwide. However, is well known the harmful action of these drugs in gastric mucosa, contributing for the development of gastritis and ulcers, especially in patients in prolonged use. Therefore, the search for new therapeutic agents more effective in combating to inflammatory pain is very relevant. Despite belonging to a genus pharmacologically promising, in accordance with several scientific studies, *Byrsonima duckeana*, tree species found in rural areas of the city of Manaus, Amazonas, Brazil, is one of thousands of species of the Amazon region that have being not investigated for their pharmacological potential. Within this context, this study aims to evaluated the analgesic potential of ethanol extract of *B. duckeana* and three less polar fractions in experimental animal models, aiming to contribute to the direction of the phytochemical study which being conducted with this species.

**Methods:** Ethanol crude extract and the hexane, chloroform and ethyl acetate fractions from leaves of *B. duckeana* were obtained by modified Soxhlet extractor method. Acetic acid writhing test was performed with groups of six albino Swiss mices (three males and three females). Dose of 100 mg/Kg of extract and fractions by oral route was tested. Positive control was Indomethacin at 10 mg / kg by oral route. This study was approved by the Ethics Committee on Animal Experimentation of Universidade Federal do Amazonas (code 048/2011 – CEEA). The results were compared by paired Test T considering p value lower than 0.05 as statically significant.

**Results:** The hexane fraction do not presented anti-hyperalgesic activity. The ethanol extract and fractions chloroform and the ethyl acetate presented anti-hyperalgesic activity (p < 0.05 in relation to negative control), without statistical differences in relation to positive control.

**Conclusion:** Our results pointed *Byrsonima duckeana* as a promising species for the studies aiming obtaining substances with anti-hyperalgesic potential. In this study, was suggested that more polar compounds are related with the anti-hyperalgesic activity presented by the leaves of *Byrsonima duckeana*, therefore, this should be the direction of the fractionation of ethanol extract.

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