

**TITLE:** ORGANIC EXTRACT OF MEDICINAL PLANT AS AN ALTERNATIVE IN THE CONTROL OF *Microsporium gypseum* DPUA 1812

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#### **ABSTRACT:**

Dermatophytoses, zoonosis of relevant importance in the veterinary clinic, are caused by fungi mainly of the genus *Microsporium* sp. The use of medicinal plants is considered an option, aiding in clinical treatment in a more natural way, stimulating the search for alternative and less toxic forms of control. This work aimed to determine the fungicidal potential of extracts of *Piper marginatum* against *Microsporium gypseum*. The botanical material of *P. marginatum* was collected at the IFAM Campus Manaus Zona Leste and deposited at the EAFM Herbarium. The fungus *M. gypseum* was obtained from the DPUA Collection of UFAM. The extracts of twigs and leaves of *P. marginatum* were obtained separately in the Laboratory of Analytical Chemistry of the IFAM Campus Manaus Center by extraction with Hexane and Methanol. Four extracts were obtained: hexanic extract from *P. marginatum* leaves, hexane extract from *P. marginatum* twigs, methanolic extract from *P. marginatum* leaves and methanolic extract from *P. marginatum* twigs. Three dilutions of each extract were used in this study (25%, 50% and 100%), using the DMSO diluent, a positive control with 16 mg/mL Itraconazole and a negative control with DMSO. The antifungal activity was determined by the agar diffusion method. In the bioassay all extracts inhibited fungus growth. There was no fungal growth in treatments with hexane extracts, both leaves and twigs. The methanolic extract of *P. marginatum* twigs showed inhibition halos at the dilutions of 50% ( $87 \pm 5.8$  mm) and 100% ( $120 \pm 10.0$  mm). The methanolic extract of leaves of *P. marginatum* showed antifungal activity in the three dilutions of 25%, 50% and 100%, with mean inhibition halos of  $50 \pm 0.0$  mm,  $53 \pm 11.5$  mm and  $147 \pm 5, 7$  mm, respectively. In all treatments the concentration of 100% presented higher antifungal potential. The positive control had inhibition halos of  $68 \pm 8.3$  mm. Negative control with DMSO did not demonstrate inhibition halos, therefore DMSO did not show antifungal activity against the dermatophyte fungus. These results suggest that extracts of *P. marginatum* evaluated in this study showed antifungal action for *M. gypseum*, allowing the continuity of the studies through the chemical characterization of these extracts and the use as a therapeutic alternative for the control of dermatophytosis caused by *M. gypseum*.

**Keywords:** phytotherapy, natural products, dermatophytosis.

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