

**Title: INHIBITORY EFFECT OF THE ESSENTIAL OIL OF *Eupatorium ballotaefolium* H.B.K. (ASTERACEAE) ON THE GROWTH OF DERMATOPHYTE *Trichophyton rubrum*.**

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**Abstract:**

Infectious diseases are configured as a serious public health problem, linked to the occurrence of fungal and bacterial resistance phenomena, which in recent years has increased, leading to a rapid and extensive search for new drugs to treat these infections. Natural products are essential in the discovery of new drugs, especially the extracted from the vascular plants, being sources of bioactive substances. Therefore, research on the use of plants for the treatment of infectious diseases is required in order to investigate whether exhibit pharmacological or merely folk action. *Eupatorium ballotaefolium* H.B.K is a perennial herbaceous species known popularly as "maria-preta", "maria-preta-verdadeira" and "picão-roxo". This study aimed to investigate the antifungal activity of the essential oil of *E. ballotaefolium* H.B.K. against strains fungal dermatophytes *Trichophyton rubrum*. The plant material was collected in the mountainous region of Meruoca in the State of Ceará and the essential oil was extracted by hydrodistillation method with use of the device type Clevenger. The tests on the antifungal activity of the essential oils were performed according to the standards of the Clinical and Laboratory Standards Institute – CLSI. Were used four strains of *T. rubrum* (CEMM 05-1-08, CEMM 05-1-034, 6753, 6212) to microdilution tests with MIC values between 2,5 mg/mL and 1,25 mg/mL. As a positive control was used the ketoconazole antifungal. The figures show an excellent inhibitory activity of growth for all strains tested, best result for strain *T. rubrum* 6753. The genus *Eupatorium* presents species whose essential oils have high levels of mono- and sesquiterpenes, in addition to sesquiterpene lactones that act as chemotaxonomic markers of the group. Both compounds are indicative of antimicrobial activity. Further studies should be developed testing the essential oil against other pathogens microorganisms, as well as research into other biological activity and possible mechanism of action.

**Keywords:** *Eupatorium ballotaefolium* H.B.K., *Trichophyton rubrum*, essential oil, antifungal activity.

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