

TITLE: DERMATOPHYTES FUNGI PRODUCERS OF MYCOTOXINS AND QUERATINASES IN SERGIPE

AUTHORS: SOARES, J. S.; BARBOSA JUNIOR, A. M.; MARCOLAN, C. C.; CAVALCANTE, R. G.; SANTOS, M. R.

INSTITUTION: ¹Universidade Federal de Sergipe - UFS; ²Coleção de Cultura de Micro-organismos de Sergipe - CCMO/SE.

Cidade Universitária Prof. José Aloísio de Campos – Campus São Cristóvão/UFS. CCBS/DMO/Laboratório de Microbiologia Aplicada (LMA) CCBS/DMO/Coleção de Cultura de Micro-organismos de Sergipe (CCMO/SE) Grupo de Pesquisa em Microbiologia Aplicada do CNPq/UFS (Bloco 145 Sala 15.Av. Marechal Rondon, S/N - Jardim Rosa Elze. CEP: 49100-000 - São Cristóvão/Sergipe).

E-mail para correspondência: microbiologia.ufs@gmail.com

ABSTRACT

Most fungal skin infections related to dermatophytes, as well as emerging fungi that cause similar clinical manifestations. These fungi present virulence factors, among them keratinases and mycotoxins. The keratinases belong to the group of proteases, which suggest the pathogenic activity, related to the propagation in the host during the invasive process. The objective of this work was to characterize the dermatomycosis fungi found in samples of soils, sand, vegetal remains and wood fragments, isolated in Aracaju/SE and Campus of UFS, in for the production of keratinases and mycotoxins. The initial isolation of the mycelial fungi isolated from the environmental substrate that diluted in glycoside broth and in BDA, incubating at 25°C at 15 days. Mycelials colonies observed in direct microscopy. In parallel, they submitted to microculture tests. For the keratinase test, submerged fermentation using Sabouraud broth and keratin baits used as fragments (wood and nail), soils, feathers and hair sterile and characterized as positive with bait perforation. For the production of mycotoxins, the detection test used with culture medium with coconut milk and UV visualization after incubation at 25°C for 7 days. Fungi that presented degradation halos, considered positive. 87,5% soil samples were positive with 48 lineages, *Penicillium spp.*, *Epidermophyton spp.*, *Rhizopus spp.*, *Microsporum spp.*, *Fusarium spp.*, *Cladosporium spp.*, *Aspergillus spp.*, *Acremonium spp.* and *Mucor spp.* With 60,4% presented some production, of these 37,5% mycotoxins production and 58,4% keratinases with 27.1% with perforation and/or degradation of the source of keratin. *Aspergillus*, *Murcor*, *Fusarium* and *T. tonsurans* obtained production the mycotoxins and keratinases, both. An increasing number of non-dermatophytic keratinophilic fungi characterized as dermatomycosis agents. In addition, the mycotoxigenic capacity is surprising, since species that not considered potentially toxic, showed positivity. This situation may be possible, due to several factors, among them, to climatic changes such as high humidity,

tropical temperatures of the Brazilian climate and lack of sanitary sewage and stimulating selective pressures.

Palavras-chave: keratinolytic fungi, dermatomycoses, mycotoxins

Apoio: Grupo de Pesquisa do CNPq Microbiologia Aplicada; CNPq e FAPITEC/SE e Universidade Federal de Sergipe.