

TITLE: IN VITRO CHARACTERIZATION OF PSEUDOGYMNOASCUS VIRULENCE ISOLATED IN ANTARCTICA

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ABSTRACT:

Fungi represents a diverse big group of microorganisms with high adaptability to different conditions in polar environments. Different species of fungi were described in several substrates in Antarctica. Among them, the specie of *Pseudogymnoascus* (previously identified as *Geomyces*), *P. destructans* is the best known, until now. *P. destructans* was reported at the maritime and continental Antarctica, being considered a psychrophilic and pathogenic fungus, which were able to reduce the population of bats through the White Nose Syndrome (WNS) in temperate regions of North America and Europe. Until the present moment, there is no information about the in vitro virulent potential of Antarctic *Pseudogymnoascus*. Therefore, studies at the in vitro virulence potential of *Pseudogymnoascus*, from Antarctica, and its possibility of dissemination have great relevance. Within the Collection of Microorganisms and cells of UFMG (UFMGCB), *Pseudogymnoascus* isolates from different substrates were found, which were collected in the Antarctic Peninsula at several islands. The species Isolates identified as *Pseudogymnoascus*, which were selected to this work, were from the Collection of Microorganisms and cells of UFMG. Among them, UFMGCB 8532, UFMGCB 10378 and UFMGCB 10392 were able to growth at 28 °C, not yet reported so far, displayed haemolytic activity in blood agar beyond phospholipase activities, on YM agar containing egg yolk. All tests were performed at 28 °C with readings at 3, 7, 14 and 21 days. The results obtained so far, indicate that the virulence factors observed in the *Pseudogymnoascus* isolates might have relevance to people whose have a disturbed immune system, which leads to what great concern, considering Antarctica is the region of planet more affected by global climate changes.

Keywords: Antarctica; *Pseudogymnoascus*; pathogenic fungus; virulence potential

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