

TITLE: MICROFUNGI IN WATER ACCUMULATED IN PHYTOTELMATA OF BROMELIADS IN A FRAGMENT OF ATLANTIC FOREST IN THE SOUTHERNMOST OF BAHIA

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ABSTRACT:

Microfungi are loosely defined organisms. Taxonomists suggest that this group contains 4,468 genera and 55,989 species in the world. They are present in water, soil, food, and some can cause major economic impacts such as pathogenicity in animals, plants, and other fungi. Bromeliads (Bromeliaceae family) are tropical plants, predominant of the Atlantic Forest. They form spirals in their leaf sheaths, forming a kind of water reservoir in the center of the plant that serves as shelter for various types of organisms. This microenvironment is called phytotelma. Despite its importance, little is known about the diversity of microfungi in these environments. Therefore, this study aimed to identify water microfungi found in Bromeliad phytotelmata located in a fragment of the Atlantic Forest located in the municipality of Teixeira de Freitas-BA, in the southernmost of Bahia. The samples were collected in January and March 2019. The processing, analysis, and identification of the samples were performed at the Fungi Biology Laboratory of the Universidade do Estado da Bahia (UNEB), Campus X. The microfungi were cultivated and identified from samples obtained in the water accumulated in the phytotelmata of Bromeliads of the genera *Aechmea* and *Vriesia*. Microscopic identification was performed according to the taxonomy of the groups based on specialized literature. In total, 13 specimens of the genus *Penicillium*, seven of *Aspergillus*, three of *Cladosporium*, three of *Fusarium*, and three of *Exophiala* were found. The following microfungi were identified at species level: *Penicillium chrysogenum*; *P. citrinum*; *Aspergillus flavus*; *A. glaucus*; *Fusarium redolens* and *Exophiala salmonis*. These types of microfungi are typically pathogenic for some organisms, especially in animals and plants. However, the bromeliads studied in this work were in good physical condition. Therefore, it was concluded that the representatives of the genera *Penicillium* and *Aspergillus* had higher occurrences in different phytotelmata, whereas *Cladosporium*, *Fusarium*, and *Exophiala* were found in lower frequencies, suggesting that these genera were not as adapted in this type of environment. Moreover, because there are few studies on microfungi in Bromeliads phytotelmata in the southernmost region of Bahia, this work may contribute to future scientific research on this topic.

Keywords: Microfungi; Bromeliaceae; Phytotelma; Hileia Baiana.

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