

**TITLE:** QUANTIFICATION AND IDENTIFICATION OF FUNGI IN BROOD CELLS OF STINGLESS BEES *SCAPTOTRIGONA* SP. GROUP *TUBIBA*.

**AUTHORS:** SILVA, A.C.<sup>1</sup>; CARVALHO, A.T.<sup>1</sup>; SIQUEIRA,V.M.<sup>1</sup>

**INSTITUTION:** 1. UNIVERSIDADE FEDERAL RURAL DE PERNAMBUCO, UNIDADE ACADÊMICA DE SERRA TALHADA – UAST (Av. Gregório Ferraz Nogueira, S/N. José Tomé de Souza Ramos, Serra Talhada – PE. Cep 56.909-535) -BRASIL.

## **ABSTRACT**

Fungi inhabit several ecological niches and their interactions with other organisms raise discussions about how to relate with hosts. Nests of stingless bees can be considered microenvironments favorable to the survival of fungi and other microorganisms function in the maintenance of this peculiar ecosystem. The nests under study belong to stingless bees of a undescribed species of the genus *Scaptotrigona*, which occurs in areas of the Caatinga and whose associated microbiota is still unknown. We hypothesized that microbiota is composed of a huge diversity of fungi, as also already reported in ants and other hymenoptera. The objective of this work was isolate, quantify and identify fungi present in larvae provisioned at brood cells of *Scaptotrigona* sp. (*Tubibagroup*) in the semiarid region of Brazilian northeastern, Pernambuco State. The samples was collected on 10 cells of brood combs (brood discs) at different stages of larvae development. Five of them with brood in the first and second larvae instar, three discs with egg and two discs with pre-pulp. The samples were solubilized in sterilized water and inoculated under three culture media for isolation. Higher amounts of fungi colonies were obtained in the Potato dextrose Agar added 15% glucose, followed by Sabouraud Agar and Potato Dextrose Agar, all with inoculations of larval food removed from cells with first and second larval instar. After five days of incubation at 28 °C, based on morphotypes, 20 isolates were selected. Of these, up to the present, eight have been identified at the genus level: *Fusarium*, *Trichoderma* and *Cladosporium* and one at the species level - *Arcopilus cupreus*. This is the first report of isolation of this species from samples collected in nests of stingless bees. The remaining isolates will be identifying and we expected find more new and undescribed species of fungi in the nest microbiota.

**Keywords:** fungi, stingless bees, *Arcopilus cupreus*, microenvironments.

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